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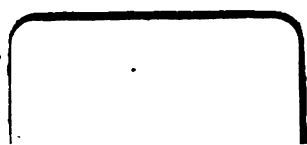
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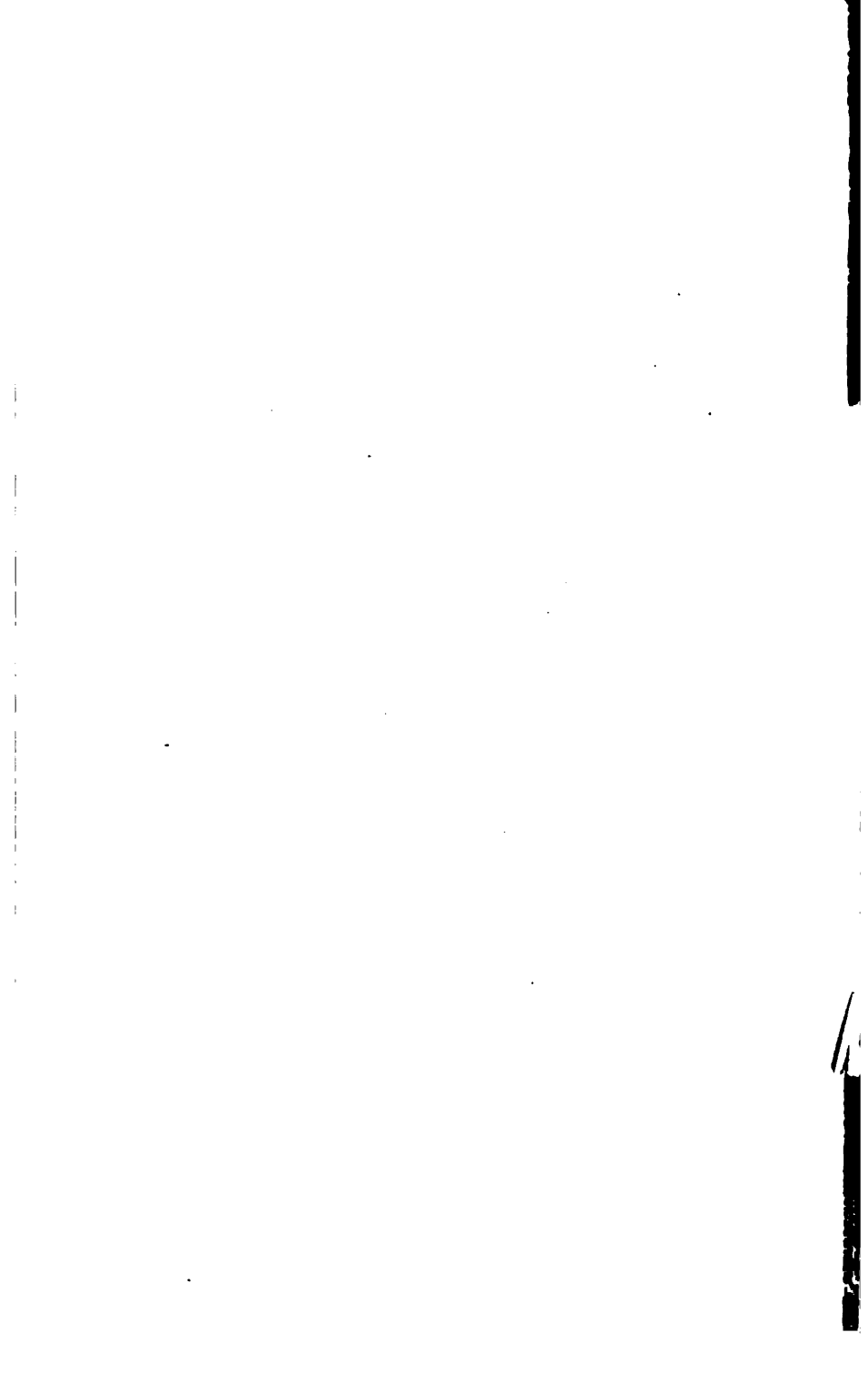
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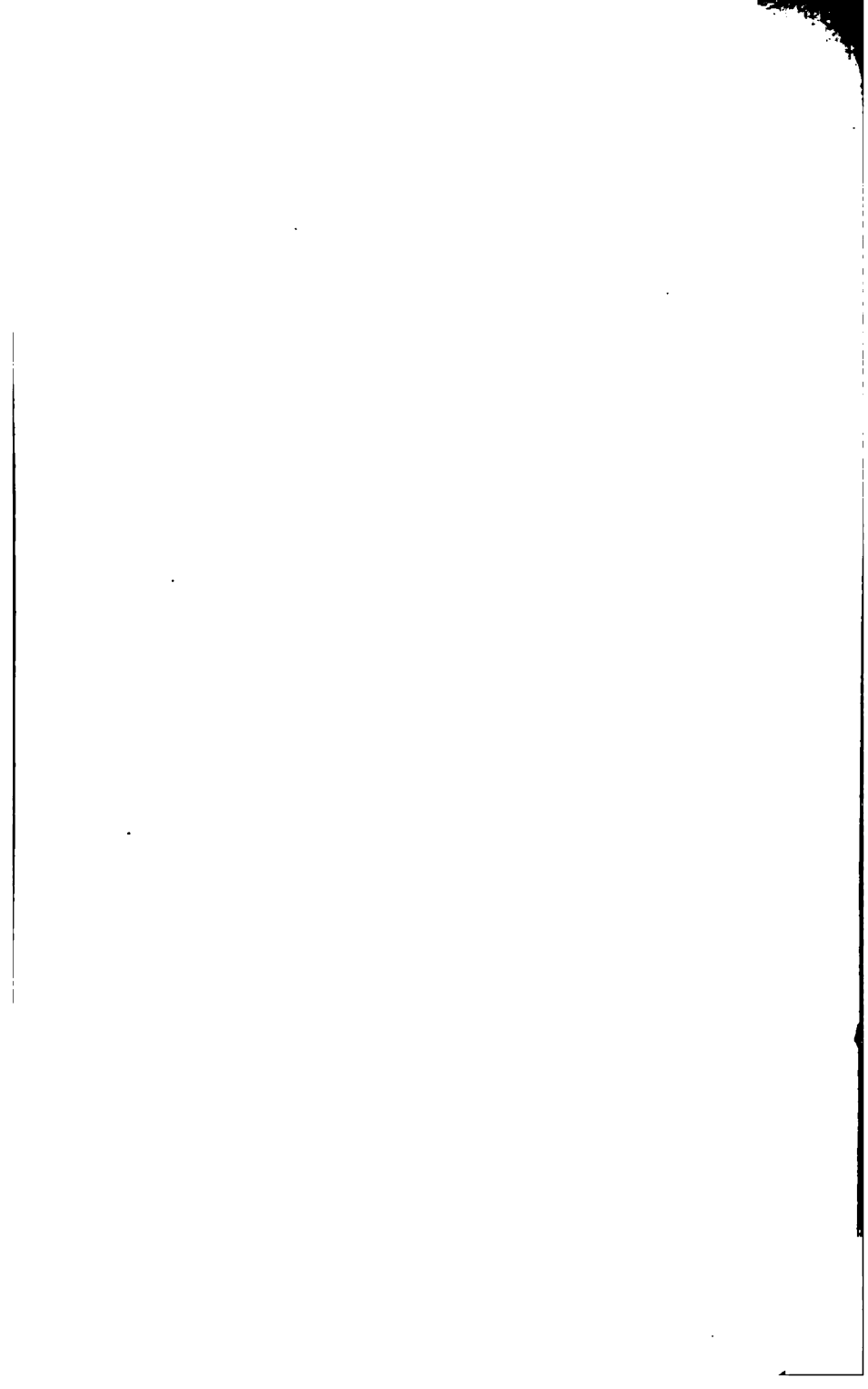
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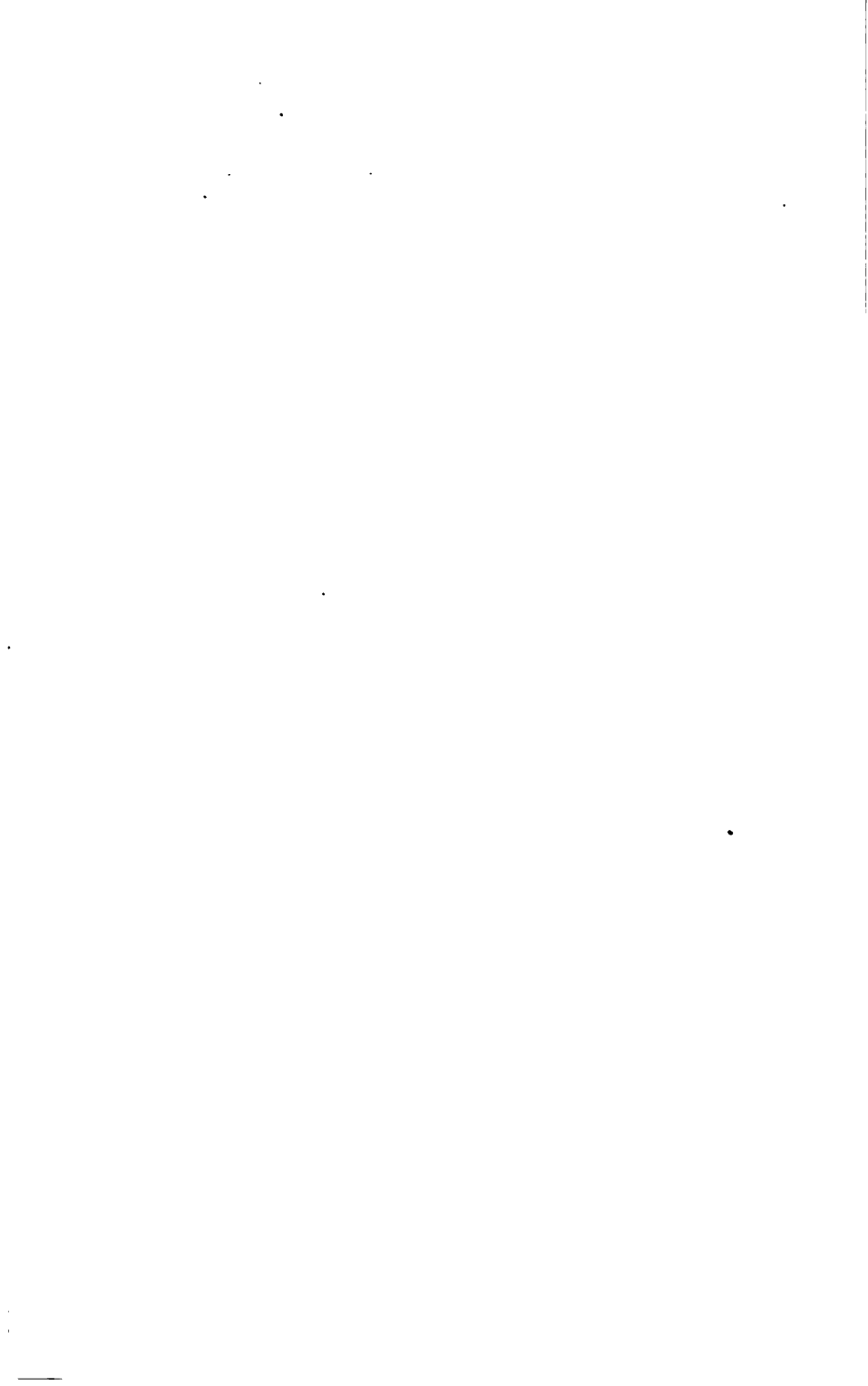
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THE
DUBLIN JOURNAL
OF
MEDICAL SCIENCE.

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THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

JANUARY 1, 1897.

PART I. ORIGINAL COMMUNICATIONS.

ART. I.—*An Address on Serum-Therapy*, delivered at the Opening of the Winter Session of the North of Ireland Branch of the British Medical Association at Belfast, November, 1896. By PROFESSOR W. WHITLA, M.D., President of the Branch.

It has from the earliest times been recognised that some individuals, and even some races of mankind, are naturally immune or insusceptible to certain infective diseases, and similar facts were known to maintain amongst animals. This so-called *natural* immunity, associated with many theories in physiology and pathology, we must pass over as not directly bearing upon our present subject.

Acquired immunity has also been for ages recognised, since it was noticed that an attack of some infectious diseases protected an individual for long periods or for life from subsequent attacks of the same disorder. This acquired immunity or insusceptibility has been the subject of much labour and research, and the origin of innumerable theories during the last decade.

The discovery of Metschnikoff, which at one time seemed to demonstrate that its explanation lay in the phenomena of

phagocytosis, has gradually given way to the view first promulgated by Buchner, that acquired immunity or insusceptibility depends upon the presence of certain *chemical* or unorganised substances or bodies in the blood.

This view was held long before these substances were discovered or demonstrated to exist. Their discovery in no way negated the researches of Metschnikoff or disproved the facts of phagocytosis, but minimised their influence as a factor in producing acquired immunity.

It is interesting to note that Sir Joseph Lister, in his recent Address to the British Association, states that by a long series of most beautiful researches Metschnikoff has firmly established the great truth that phagocytosis is the main defensive means possessed by the living body against the invasion of its microscopic foes, and that, especially in the case of natural immunity, phagocytosis seems to be the sole defensive agency. He also believes that in the case of acquired immunity the useful elements of the serum may be in part at least derived from the digestive juices of the phagocytes.

With the discovery that the blood of animals artificially rendered immune contained certain chemical substances, came the possibility of a new system of treatment.

It is of great interest to see how this new system became possible, and it has a very distinct bearing upon our subject to trace the discovery of serum therapeutics. In the literature of the subject, and even in the recent writings of those who have attempted to give a history of its origin, one cannot fail to be struck with the scanty references or the total absence of allusion to Pasteurism, though the new treatment has sprung directly out of the results of Pasteur's brilliant labours.

Pasteur conceived the idea, and carried it into practice, of rendering an animal immune by injecting into its tissues gradually increasing doses of attenuated virus. He placed the microbes which caused hydrophobia, anthrax, and other

diseases in such unfavourable conditions that they partially lost their potency, and could be injected without harm in this attenuated form into animals. Then followed the demonstration that the animal so treated was proof against enormous doses of the original virus in its most potent form.

It will be noticed that Pasteur in this was but working out scientifically the great problem which had been successfully solved by the immortal Jenner many years before. For it may be accepted that the Jennerian vaccination was but the protection of the individual (by the *attenuated* virus of small-pox) against the virulent form of the human disease.

Pasteur's next step, or, if I be permitted to so put it, the next step towards the discovery of serum therapeutics, was to demonstrate in the human subject that the introduction of the attenuated virus was not only protective or preventive but *curative*.

The new method now outran the progress of Preventive Medicine, and heralded new triumphs in Therapeutics. The statistics of the Pasteur Institute up to 1895 showed a total mortality of one-fourth per cent., after deducting the few cases dying during or within fourteen days after treatment had been commenced.

The figures for 1895, just to hand, show that the total number of cases for the year was 1,520, of which only two died, representing a mortality of about one-eighth per cent. In all 17,334 have been treated since the commencement, with 80 deaths. At the low calculation that 1 in 7 would probably have died, there is a saving of life equal to 2,396 lives at the Paris Institute.

The next important advance in our knowledge was made when Salmon demonstrated that an animal could be rendered immune by the injection of gradually increasing doses of the *chemical* substance manufactured by the bacilli without the injection of any living microbes.

It was at once recognised that this was, after all, the basis

of Pasteurism, as it had become evident that the large doses which Pasteur had administered in the later stages of the treatment of hydrophobia could contain no living germs, but simply were lethal doses of the chemical substance or poison secreted by the microbes.

Chemical vaccination, in contradistinction to *vital* or protein vaccination, was thus demonstrated to be practical, and gradually it was established that there is no essential difference between the process of immunisation or protection by means of injections of the chemical poison or by small quantities of the living bacilli.

It was soon proved that the animal so protected by either or by both methods was also protected against lethal doses of the pure chemical substance, as well as against lethal doses of cultures of the living bacilli, or, as put by Kanthack, "Immunity, therefore, implies resistance against the bacteria and their products."

By these results, and the knowledge gained during their progress, the way was gradually opened up for the brilliant discovery of Behring. He had found that by injecting gradually increasing doses of the living cultures, or of the chemical poison or toxin of diphtheria, into animals, they were easily rendered insusceptible to the disease—in other words, Behring proved by direct experiment that Pasteurism applied to diphtheria as well as to anthrax and other diseases; but he fortunately went two steps further and discovered that the blood serum of the protected animal contained chemical substances developed (during the immunisation), which had the power of protecting or immunising another animal if injected into its tissues.

This result was found to be true not only in the case of diphtheria, but experiment proved that similar results were obtained with other infective microbes, so that all bacteriologists accept without reservation the law now known as Behring's law—"That if an animal has been artificially pro-

tected against a particular infective agent, its blood or serum acquires the power, when injected in sufficient quantity into another animal, of directly transmitting an immunity from that agent" (Kanthack).

Behring's final step led to his discovery that the serum or antitoxin was not only *preventive* but *curative*, and that its administration to an animal or to man already infected with the original microbe possessed distinct antidotal powers.

If we seek for an explanation or working hypothesis for these indisputable facts we enter into the mazes of speculation; and it was in this way that some theorists who had not closely followed the experimental proofs were led at first to doubt the value of serum-therapy.

What is the nature and whence the origin of the so-called "antitoxin," found in the serum of protected animals, remain still to be proven.

In all probability it will be demonstrated to be a *vitul* product of the living cells of the animal, secreted during the progress of immunisation.

Fraser has within the past few weeks started the theory that as regards snake-bite antitoxin "protection or immunity is chiefly due to the accumulation in the blood of an antidotal substance, and that this substance originates at least in part *from the venom* itself, and is *normally one of the constituents* of the venom."

Buchner had formerly promulgated the same view regarding the antitoxin of diphtheria. If this hypothesis be true, that the antitoxin is derived from the toxin directly, it must have some power of reproducing itself, or of acting as a ferment, because when a horse is prepared for yielding antitoxin, his serum is found to be as strong in antitoxic power after the second bleeding as after the first, though no poison has been administered in the interval. It is, therefore, highly improbable that this view is correct. It is denied by Calmette. (It may receive some weight at first sight from the fact that it has been found

that the antitoxic or antidotal power of the serum is in direct proportion to the dosage of the animal by the toxin or cultures, but much higher valued serum can be produced by a series of small doses than by the same amount of toxin injected at once).

It is worth reminding you in passing that there is a difference in the immunising power as distinguished from the antidotal power of serums prepared after dosage of animals by toxin and by living cultures.

It is, however, of more importance to consider how the serum acts—how does it produce immunity or exercise its antidotal powers in disease? Those in a position to express a verdict upon the question appear to be divided between two views.

One is the *chemical* view, and receives support from the experimental fact that enormous quantities of the toxin or chemical poison produced by certain bacilli can be neutralised by small amounts of the protective serum added in a test tube, the resulting mixture or chemical compound proving to be harmless when injected into susceptible animals. Behring himself likened this result to the combination of an acid and an alkali forming a neutral salt. Other authorities, however, reject the *chemical* theory and maintain that the explanation lies in some *vital* cellular change rapidly following upon the injections.

The action cannot possibly be explained by the supposition that the serum acts as a poison to the bacilli as corrosive sublimate does, because it has been demonstrated that the bacilli may be cultivated in their respective antitoxic serums; though it is certain from numerous experiments that when the bacilli and serum are injected into an animal the microbes cease to grow and are speedily, with their products, destroyed or rendered innocuous.

Experiments have demonstrated that a potent serum can be obtained from the blood of animals injected by small doses

of the active poisons found in the castor oil seed and in jequirity, so that animals can be immunised or protected from these toxalbumins.

The value of the serum-therapy of diphtheria can only be realised by *forgetting* for the moment the various theories which are being almost daily promulgated with the view of explaining the results obtained, and by remembering the numerous experimental facts accumulated within the past two years. To do so one must glance at the facts as proved and accepted about the pathology of the disease itself. There are still a few facts to be made out about diphtheria, but I do not think that I am overstating it when I say that there is probably no other diseased condition about which we know so much, no other affection whose ætiology and pathology have been so completely worked out. This is to a large extent owing to the original researches made in connection with the perfecting of the serum-therapy of the disease.

Kanthack, in Allbutts' System of Medicine, states—"The Klebs-Löffler bacillus is found in every case of diphtheria, and from the results of investigations made all over the world we must refuse to call any lesion diphtheria unless it is associated with that bacillus; conversely, any morbid process accompanied by this organism is diphtheria." We possess in this organism of Klebs-Löffler a certain test. At the present time we frequently hear that typical bacilli have been discovered in cases which clinically are not diphtheria, our clinical notions must then be amended and our position reconsidered. The bacillus asserts itself with an authority which must put aside any preconceived notions.

Sidney Martin defines diphtheria as a membranous inflammation of a mucous membrane, usually of the respiratory passages, due to the invasion of this bacillus. It does not enter the body, but forms poisons in the membrane, which produce the fever, &c., and characteristic palsy, and he insists upon the importance of the presence of nerve-

degeneration as the final and most accurate test of the presence of the bacillus of diphtheria.

Recently the bacilli have been found in fatal cases in the blood, lungs, and other viscera; but it nevertheless remains true that in the great majority of cases the microbes remain outside the body or blood, and as they grow the poisons which they secrete are absorbed, and produce the asthenia, fever, syncope, paralysis, and death, met with in all typical cases of the disease. This has been thoroughly demonstrated by experiment, and since the nature of these poisons is of great practical importance, it will be necessary to refer at some length to the brilliant discoveries of Martin, who was the first pathologist who demonstrated that the poison or *toxin* of each bacillus was *specific*, as others before him had proved that the microbes themselves were specific in their action. In the same way it has been proven that the antitoxins are specific.

Martin found two poisons. One he extracted from the diphtheritic membrane as a precipitate; it produces, in one single infinitesimal dose, paralysis and death in the rabbit, preceded by wasting, diarrhoea, and fatty degeneration; it reproduces the symptoms and pathological changes found in diphtheria after one single dose which is almost invisible, and this renders it highly probable that it is a *ferment*.

Strange at first sight, it must appear, that this poison, which is the chemical representative of the Klebs-Löffler bacillus, is not found in the blood and tissues of animals or men dying from diphtheria. There, another poison has been found by Martin, which is an *albumose* or digested proteid. Injection of this poison, which chemically resembles the albumoses found in the healthy stomach during digestion, produces rapid rise in temperature, and *repeated* small doses finally cause all the usual characteristics of diphtheria, including the nerve and cardiac degeneration. Martin's view is that the bacilli growing in the membrane produce

the toxin or ferment poison, which is absorbed into the blood, where by acting upon the proteids of the body it forms the albumose poison, which is thus a product of its digestive action. The proof of this view is highly interesting; both poisons can be manufactured outside the body by cultivating the bacillus in various ways. Thus, if the microbes be grown in the ordinary alkaline meat-broth, with a little salt and peptone, the toxin or ferment poison is produced, and its injection produces the symptoms previously mentioned, one dose being sufficient. But if the microbes be grown in alkaline broth, to which a little alkali albumen has been added—if, for example, the culture medium, first introduced by our distinguished pathologist, Dr. L. Smith, be employed, the alkali albumen is digested by the Klebs-Löffler bacillus, and the product is the *albumose* poison, which produces, after repeated small doses, the fever *plus* all the symptoms and pathological changes found in diphtheria. Hence the conclusions arrived at by Martin may be accepted as proven, and their value in clearing up the pathology and in giving indications for the use of the antitoxic serum in diphtheria is obvious. To quote his own words—"For these reasons the *Bacillus diphtheriæ* is the cause of diphtheria. It is found in the membrane, it can be separated from the membrane, and when grown in suitable media outside the body it forms poisons which have the same physiological action as those present in the membrane and in the tissues of patients dead of diphtheria."

The pathological process he regards to be the following. When the membrane is formed the bacilli growing in it, especially near the surface, secrete a ferment which when absorbed into the body, produces, by acting on the proteids of the body, digestive products, the chief of which belongs to the albumose class. It is not that the body is poisoned by a single large dose and then the action stopped (although this may occur in certain cases), but it is that numerous small

doses are in the course of the disease absorbed into the system, and are gradually producing their effects.

I omit to dwell upon an organic acid which is found in the blood and tissues; it has similar but much weaker action than the albumose poison, and it evidently plays a very unimportant part.

There *may* be some reservation in accepting these results, which seem to prove that the Klebs-Löffler bacillus manufactures first a deadly ferment or enzyme, which in its turn manufactures an albumose poison which infects or poisons the tissues. It is just within the limit of possibility that the bacilli secrete the poison directly without the intervention of the ferment, as former observers believed, and if these researches of Martin be doubted, or even disproved (though I think this highly improbable), the conclusion now universally accepted must remain unshaken—that diphtheria is caused by a poison absorbed into the system, and that the specific origin of the poison is the *Bacillus diphtheriæ*.

Those who have made frequent bacteriological examinations of the *healthy* throat, fauces, and buccal cavity, have found about a dozen different micro-organisms, generally maintaining a quiet, harmless existence there. Some of these may be often seen in conjunction with the diphtheritic microbe in cultures made from the false membrane in disease. Nearly always present in such cultures are streptococci and staphylococci of various kinds, and it is a difficult question how far their presence influences the course of diphtheria. They certainly answer for some of the complications, and explain the septicæmic types of the affection, and it has been suggested that the specific antitoxic serum for these pyococcal microbes should be administered along with the specific diphtheritic antitoxin, and the suggestion has been successfully put into practice.

We shall now pass on to the consideration of a few of the experimental proofs of the value of the antitoxic serum.

A culture is made on broth, gelatine, or agar of the pure bacillus, and filtered so as to contain nothing but the toxin; the potency of this will depend upon the nature of the nutritive medium and the length of time it has been incubated. Roux, at the Pasteur Institute, prepared in this way a pure toxin, of which .1 c.cm. always killed a 300 to 400 gramme guinea-pig in about 36 hours. After the injection of this dose (=about $1\frac{1}{2}$ minims) a tumour appears in about 20 hours at the site of the injection, and in 12 or 16 hours more the animal dies, and its organs afford proof of the identity of the poison with that of human diphtheria. If a much smaller dose be injected into another healthy guinea-pig, or if the same dose of the toxin, attenuated by heat or chemicals, be injected, a trifling tumour appears, and in a few days the animal is found quite healthy; larger doses can then be administered, and soon it is found that it bears many lethal doses with impunity, and eventually it is proved to be protected against enormous doses.

If it be now bled the serum of its blood contains the antitoxin of a strength proportionate to the amount and frequency of the toxin administered.

Behring's method of determining the antitoxic value of serums was to mix them in varying quantities with ten lethal doses of toxin, and then to administer the mixture to guinea-pigs of 300 grammes weight. When he found a serum of which 0.1 c.cm. mixed with ten lethal doses could be injected into a guinea-pig without the slightest harm he labelled this serum as possessing one immunising unit.

He was able to protect animals to such a degree against diphtheria that 18000 part of 1 c.cm. (= nearly 10000 part of a drop) of their serum mixed with a fatal dose of diphtheritic toxin, when injected into a guinea-pig, produced no effects whatever. The same dose without the serum always killed the control animal.

Klein, commenting upon these marvellous results, states—

"I venture to say that nothing can be found in the whole range of experimental pathology or pharmacology which offers clearer or more striking results than these experiments."

Klein repeated these experiments, only he used living cultures instead of the dead toxin, and by mixing the living bacilli with the antitoxic serum before injecting he obtained similar results.

He thus summarises the results of an overwhelming number of observations made by competent observers by stating that the Klebs-Löffler bacillus is the true cause of diphtheria; that the experimental evidence of this is sufficient; and, further, that the nature and effect of the specific toxins produced by the bacilli in the culture and in the human body are the same; that also the appearance of post-diphtheritic paralysis producible in animals by the toxins or by injection of living culture is the same as that occurring in man after diphtheria. Such being the case, the application of the serum of animals in which a high degree of resistance against diphtheria has been artificially produced to the treatment of human diphtheria must be obvious. He winds up his remarkable paper, read in 1895 at the annual meeting of the British Medical Association, by stating—"One thing cannot, I think, be gainsaid—namely, that the scientific basis for the application of antitoxic serum is as firmly founded and as thoroughly established as the use and application of any known drug."

The *experimental* evidence of the value of the antitoxic serum when injected as an antidote to the toxin of diphtheria must in the case of animals be regarded as conclusive and the problem as proven.

We must next seriously consider in how far are these experimental results comparable to the phenomena which are to be met with in dealing with diphtheria in the human subject.

In one respect they are widely different, and upon this

serious difference depends the issue of serum-therapy. I have mentioned that the bacteriologist mixes an enormous dose of diphtheritic toxin with an almost invisible amount of the harmless serum in his test tube and injects the mixture into a healthy rabbit or guinea-pig and no results follow. If the problem of treating diphtheria in the human subject could be reduced to these simple lines we might safely affirm that no person need ever die of the disease. In the first place it is obvious that the physician has no means of determining the amount of the toxin which has already found its way into the patient's blood, and if many times the lethal dose has been absorbed, experimental research in animals has proved that the case is hopeless. There are, therefore, limits to serum-therapy, and a consideration of these limits are of vital importance before we can hope to use the antidote with success.

It has been seen that the bacillus grows upon the surface of the mucous membrane and that its poison is gradually absorbed, the patient being in the position of hourly receiving numerous small doses of the toxin before his danger is even suspected—a condition differing widely from that which maintains in the test tube experiments previously mentioned.

Before applying the serum to the treatment of the disease in man Behring first produced artificially in animals a condition closely resembling if not identical with that which exists in human diphtheria by injecting numerous small doses of the toxin without any previous admixture of the serum *in vitro*. A few of the results may be mentioned. An animal was injected with the minimum lethal dose of the toxin, and at the same moment an injection of the serum was given in some other part of its body. It was found that the dose of the serum necessary to save the animal under these conditions was more than 100 times the quantity which was necessary to save it had the serum and the toxin been previously mixed together before injection.

The next series of experiments closely imitated the conditions present in human diphtheria.

The minimum lethal dose was injected into an animal and thirty minutes allowed to elapse before the serum was administered; the dose of the latter necessary to save the animal was found to be 200 times greater than that used in the test tube experiment.

Fortunately it has been proved that if double the lethal dose be given to an animal and serum be injected 30 minutes later it does not require such a relatively large dose to save the animal—viz., the amount necessary will fall far short of 400 times the test tube amount, but Professor Fraser insists upon the importance of noting that if the dose of toxin considerably exceeds the minimum lethal dose, possibly for most toxins, when it is as large as 3 times the minimum lethal, there are probably no existing antitoxins that are capable of preventing death in any conditions encountered in practice. I mention these later experiments, for in them the key-note to treatment is to be found. It is obvious that the whole success of serum-therapy will turn upon this “time” difficulty, and the facts demonstrated in the laboratory receive striking corroboration by a study of the published results of the success of the treatment in the human subject.

It will be seen how securely, stone by stone, the foundations of serum-therapy had been laid before the new system was to be tested in practical medicine.

When we come to examine the results of the treatment, as published within the past two years from all parts of the world, the evidence of the success of the antitoxic serum appears to be overwhelming, and I feel that the greatest difficulty of my task is approached when I attempt to deal with this aspect of the subject. The materials are almost limitless.

Statistics are liable to many fallacies. Outbreaks of diphtheria are of very unequal severities, and the mortality varies very much consequently.

Age influences mortality greatly, and locality has been found to influence the death-rate to a surprising degree; thus the death-rate from the disease on the Continent has been much higher than at home.

Up to the end of last year I collected the available figures from all countries; striking an average I arrived at the conclusion that it was probable that the mortality was reduced to at least one-half what it had been before the introduction of serum-therapy. This rough plan is open to serious objection, as no attempt at classification regarding age, duration of disease before treatment, &c., could be attempted when dealing with many thousands of cases, but it quite served the purpose for which it was intended—viz., to give a clear and certain indication of the direction in which the mortality curve was then moving. It was also apparent that the diminution was greatest where the mortality was previously very high, and that at home the influence of the antitoxin on the death-rate was slight compared with places like Paris, Berlin, and Munich, where the mortality had been found to be reduced much below 50 per cent. of what it had previously been. It has been suggested that these latter results may be explained by the fact that the dose of antitoxin used on the continent is much larger than that employed as a rule in England last year; but I was also satisfied from a perusal of the reports that a factor of even greater importance was present—viz., that the continental physicians injected the serum immediately on seeing the patients, and it appears probable, from reasoning upon the greater gravity and prevalence of the disease abroad, that the patients seek hospital advice at an earlier stage. Many physicians at home seem to inject the serum only in the exceptionally severe cases, and many of these must be regarded as hopeless. It is clear that figures which are mainly concerned with such cases, when compared with an equal number of all round cases, treated by the older methods,

will give results which place the success of serum-therapy at serious and unfair disadvantage. These are but a sample of the fallacies which beset the question of statistics; however, if we confine our study to figures occurring in the practice of one hospital or one physician of eminence most of the fallacies can be eliminated.

Professor Baginsky, of the University of Berlin, reported last year that he had treated 525 cases of diphtheria with serum. His mortality for all ages was 15·6 per cent.; his mortality was previous to the serum treatment 41 per cent.

An analysis of his ages shows most marked results:—

Under 2 years, previous mortality was 63; now 25 per cent.

From 2-4 " " 52; " 17 "

 " 12-13 " " 13; " 13 "

During two months of the treatment no serum was available, and 126 cases were treated without it; the mortality was 48·4 per cent. On commencing the serum the mortality fell to 15·6 per cent.

Professor Ranke, of the University of Munich, treated last year 163 cases of primary diphtheria with a mortality of 17·7 per cent. The bacillus of Klebs-Löffler was found present in all these save 9. He gives the mortality for the 8 years prior to the serum treatment, and it varies from the lowest, which was 42·2 per cent., to the highest, which was 57 per cent., the average for the 8 years being 48·8 per cent. His figures show the remarkable efficacy of the serum when resorted to early. The following was the mortality in the cases according to the days of the disease upon which the treatment was commenced:—

5·2 per cent. in cases treated on the 1st day.

8·5	"	"	"	2nd	"
17·9	"	"	"	3rd	"
15·8	"	"	"	4th	"
11·1	"	"	"	5th	"
40·	"	"	"	6th	"
46·6	"	"	"	7th day and later	

He states—"What seems to me to prove the value of the serum treatment, even more than these statistical figures, is the change in the clinical course of the disease—it loses its progressive character. I have not had a single case in which laryngostenosis developed itself after injection if symptoms of it had not been present already on admission." In 27 cases of undoubted diphtheritic croup the symptoms subsided after the injection.

With results such as these the profession was not prepared for the Report of the Metropolitan Asylums Board, which appeared in the newspapers in April last. The *résumé* of the results gave a mortality of 28·1 with the serum treatment, as against 29·6 with the older methods.

When the details were published it was found that only the severe cases were subjected to the serum, and in order to make the figures comparable the mild cases not treated with serum were included in the figures for the year; this gave a mortality of 22·5 per cent. for the serum year, against 29·6 for 1894.

It cannot be denied that this is a comparatively small decrease, but I have gone into the figures and find that this fall in the mortality represents 248 lives.

Several serious weak points may be observed in looking closely into the Report; thus only 61 per cent. of the cases were injected with the serum, and only those which appeared to be severe received the injections on admission. The *British Medical Journal* points out that amongst the numerous hospitals under the management of the Board cases were admitted as mild which afterwards, in all probability, became severe and were injected at a period which would give much less satisfactory results. The method of administering the serum in the various hospitals is open to grave difference of opinion. The reporters state—"That the best results may be obtained by giving a dose of 1,000 Behring's immunising units every 12 hours for the first 24, 36, or 48 hours, accord-

ing to the gravity of the case, and if necessary a subsequent injection of half the amount daily for such time as the exudation may remain adherent." These principles of dosage will be found to be at variance with those established by the *experimental* researches of Behring and others. Those researches proved that when possible it was necessary to introduce the required number of units at a single large dose.

The practice of the physicians of the Asylum Board will thus be seen to be also at variance with that of the continental professors whose results have just been mentioned. Considerations like these justify one in hoping that the mortality in the various hospitals under the control of the Board will show next year a still further reduction, and will prove the opinion to be correct which they have stated in their Report—viz., "That in antitoxic serum we possess a remedy of distinctly greater value in the treatment of diphtheria than any other with which we are acquainted."

The Reports bring out very unmistakably a fact insisted upon by Behring and other continental authorities and emphasised in the results obtained by Ranke. Of all the cases of diphtheria which in 1894 were admitted to the hospitals on the first day of the disease the mortality was 22·5 per cent. In 1895 under the serum, the mortality of these cases fell to 4·6 per cent.; of second day admissions the mortality fell from 27 to 14·8 per cent.

Through the kindness of Sir Joseph Lister I have just received a copy of the Asylum Board's Report. It contains some 80 tables of figures bearing upon the diphtheria statistics, and I find on closely examining these tables some startling proofs of the efficacy of the new treatment. One of these proofs I shall briefly point out. If we examine Table VII, page 116, we find that there were 86 patients in all the hospitals who were admitted and received injections upon the *first day* of the disease; of these 4 only died (mortality 4·6). These cases obviously were all more or less serious.

By scrutinising Table XIV. we learn that 128 cases altogether (mild and severe) were admitted on the first day of the disease; this number includes those injected and those apparently so mild as not to require injection. Of the 128 cases 15 died. By subtracting the 86 severe cases under serum treatment, with their 4 deaths, we find that 42 patients were admitted on the first day with symptoms so mild that it was not considered necessary to resort to serum treatment, and the mortality amongst these amounted to no less than 26·2 per cent. In other words the mortality in the obviously severe cases under the serum treatment is 4·6 per cent., whilst the mortality in the apparently trivial cases becomes 26·2 by withholding the injections.

The reporters append a most striking statement from the authorities in their Northern Convalescent Hospital, where convalescents from scarlatina were admitted from the six hospitals.

Post-scarlatinal diphtheria developed in these patients in 119 cases, and under serum treatment, applied at once, there were 4 deaths, or 3·3 per cent. In the average of the three preceding years 119 patients had a mortality of 63 per cent. I feel that any comment of mine upon these marvellous figures would only lessen their weight, but I cannot refrain from pointing out that they appear to afford the most conclusive of all the evidences yet produced of the truth of the theory upon which serum-therapy is founded. They demonstrate that the early recognition of the disease as it occurred in hospital under the eye of the physician could be met by injections of an antidotal nature which reduced the mortality from 63·0 to 3·3 per cent.

Following this important Asylums Board Report come the *Vital Statistics of Diphtheria*, compiled by Dr. Dixey, who states his belief that the present low mortality in London is owing to the serum treatment. He finds that the case mortality for the whole of London is now at the lowest point ever

recorded—viz., under 20 per cent. The last statistics which have appeared are those of the American Pediatric Society. They include Reports of 5,794 cases investigated by the Society; the mortality was 713, or 12·3 per cent.; of these 218 were moribund at the time of the injection, or died within 24 hours. Excluding these, the total mortality amounts to only 8·8 per cent. This Report agrees with all the former ones from Europe in proving that the mortality was lower the earlier the injections were made; thus, 4,120 cases injected in private practice during the first three days of the disease, excluding moribund cases, resulted in a mortality of only 4·8 per cent.

After the third day the mortality rose rapidly, and did not differ materially from ordinary diphtheria statistics. The Report states—"Our figures emphasise the statement so often made that relatively little benefit is seen from anti-toxin after three days. However, it must be said that striking improvement has in some cases been seen, even when the serum has been injected as late as the fifth and sixth day. The duration of the disease, therefore, is no contra-indication to its use." In about two-thirds of the series the presence of the bacillus was demonstrated, and in the great majority of the cases only one injection was given, and, as a rule, the dose was smaller than is now considered advisable.

I have, at the risk of wearying you, gone into the statistics of the serum-therapy of diphtheria rather than detain you with a detailed account of my own personal experience of the treatment, which is so small as to fall short of a score of cases, which I have seen with my medical brethren in consultation. It is folly to draw any conclusions from such an experience, but limited as it has been, it has enabled me to feel that at least 3 of these patients would have died but for the serum, and it has prepared me for the marvellous results which have been chronicled by others.

With the remarks of Dr. Washbourn, Physician to the London Fever Hospital, no one can disagree who has given any attention to the new treatment. He states—"In reading the literature of the subject I have been struck by the fact that almost every observer who has had a large experience of diphtheria speaks in the highest possible terms of the value of the remedy; whilst criticism has come from those who have had only a slight experience of diphtheria or little personal experience of the antitoxin treatment." Reliable statistics of more than 20,000 cases have now been published, and the flow of Reports is probably somewhat checked, as the case is now regarded almost universally as *proven*. Some difference of opinion may still exist regarding the effect of the serum upon certain symptoms and sequelæ. The majority of observers agree that in the vast bulk of cases treated by the serum a general improvement in all the symptoms sets in rapidly.

The false membrane ceases, as a rule, to extend, and generally speedy disintegration of it begins. This is evident also in those cases where laryngeal symptoms have become obvious and are deepening, and the evidence is overwhelming that the serum often prevents the necessity of tracheotomy.

Upon the heart, in a few cases, the remedy has certainly appeared to cause depression, but in the vast bulk of the severe cases its action on the circulation has been beneficial.

Upon the fever heat it would appear to act somewhat after the manner of the new antipyretics; where the temperature is only slightly elevated the serum seems to have little effect, but where it is high a rapid fall sets in.

It is very doubtful if any action upon the kidneys follows the injection of the remedy, and it must be remembered that the injections are often administered where the kidney is already suffering from the toxic effects of the diphtheritic virus. The great majority of observers deny that the serum has any deleterious action upon the renal organs. Fatal

nephritis occurred only 15 times in the 5,794 cases of diphtheria treated by the new remedy in the American statistics.

A very important question is that of the effect of the serum upon the occurrence of paralysis ; this cannot be satisfactorily answered at present as this symptom often does not show itself till after the patient has left hospital for some time. Most observers believe that where the injections are given early there is less chance of paralysis supervening. Probably the view of Goodall and Washbourn is correct, that as this symptom is more likely to occur in severe cases, if the serum saves such cases by tiding them through the membranous stage, they expect that statistics will ultimately prove that the percentage incidence of paralysis will become higher in the survivors, for we must not forget that many fatal cases would probably have developed paralysis had they recovered from the effects of the disease in the throat.

A few (two or three) sudden deaths have been reported as occurring soon after the injection of the antitoxin. The test case is the sad one where the antitoxin was injected as a preventive into the healthy child of Professor Langerhans. The event was so clearly the result of the injection that too much attention could not be called to it. Up to this accident the serum was regarded as harmless.

In last month's *Therapeutic Gazette* a statement appears in the leading article about this case:—"It has been explained by the fact that the child had just completed an unusually heavy meal, and that in the attempt to vomit during the faintness following the injection, he drew into his air-passages some of the contents of his stomach, with resultant asphyxiation." In the 6,000 American cases death was supposed to be caused or hastened by the injections in three cases, but an analysis of the cases does not appear to warrant the suspicion. I cannot find a single instance where any serious results have followed the injection of antitoxic serum in animals.

Joint pains, and the characteristic erythematous eruption which so often follows, soon pass off and may be disregarded, though the rash be followed by some pyrexia.

All the serums as yet produced in the liquid form deteriorate, and this so rapidly and to such an extent that in many cases a worthless liquid is injected. Serum should be kept in the dark, and in a very cool place, in sealed bottles.

In Belfast there should be found a chemist with sufficient enterprise to keep a stock of liquid serum in a good refrigerator, and from him physicians could get the remedy fresh as required both for town and country.

The dried serum, if found perfectly reliable, may dispose of this serious difficulty as regards fresh supply, but at present its relative value to the liquid has yet to be proven. It is interesting to note that the cutaneous inconveniences are seldom found to follow after its use, and by making a strong solution of it, the bulk of the injection is much lessened, and the operation appears to the patient to be less formidable, as a much smaller syringe may be employed. Upon the other hand, some authorities affirm that the serum cannot be reduced to the dry state without injury to its virtues, and, as far as I can learn, the Continental authorities use the liquid form.

It is needless to state that the strictest antiseptic precautions should be taken, and the syringe used should be one capable of sterilisation by boiling. A weak sublimate, or 1 in 20 carbolic lotion, must be freely applied after soap and water cleansing; and the subcutaneous tissue of the flank is the most convenient site for injecting.

In the Asylums Board Reports the rash appeared in 45·9 per cent. of the cases; joint pains in 4·7; pyrexia, with or without rash, in 29·6; and abscesses at the site of injection in 2·3 per cent.

The *dosage* is of vital importance, and the numbers of different serums in the market of different strengths have

led to some confusion. All serums should be sent out in doses containing 1,000 or 2,000 immunising units, regardless of the actual bulk of the serum, as in the case of the remedy prepared by Dr. Sims Woodhead.

The American Committee recommends for all severe or laryngeal cases that a dose of from 1,500 to 2,000 immunising units should be given to a child two years old in the first injection, this to be repeated after 18 to 24 hours. The Asylums Board reporters, as already stated, recommend only 1,000 units every 12 twelve hours.

In the selection of a serum the rule should maintain that the stronger it is the better.

A very interesting paper upon the processes for preparing the serum appears in the *B. M. J.* for October 3rd, by Bokenham, who gave a practical demonstration before the Pathological Section of the British Medical Association. He cultivates the diphtheritic bacillus on the surface of bouillon in undisturbed flasks for three weeks at a temperature of 37° C. The culture on being filtered through sterile porcelain yields a toxin, which is fatal to small guinea-pigs in doses of 1 to 5 cgs. (*i.e.* less than half a minim).

He selects young thoroughbred horses for the preparation of the serum, and these are injected at first with about 4 or 5 minims of the toxin. As the dose is steadily increased, and its bulk becomes larger, he injects it directly into a vein. At the end of three or four months the horse is bled, and its serum is generally found to contain 500 to 700 units in every 10c.cm. A fair dose of such serum would, therefore, measure about five fluid drs.; and, upon being standardised by Behring's method, experiments on guinea-pigs should demonstrate that $\frac{1}{100}$ part of a gramme (*i.e.* $\frac{1}{40}$ of a drop) of this serum should certainly protect a guinea-pig against ten lethal doses of the diphtheritic toxin. After this testing of the serum, it is filtered under the pressure of liquefied carbonic acid gas, and preserved in dark-coloured sealed bottles.

I fear that my necessarily imperfect, and in many respects fragmentary paper has already extended beyond the limits of your patience. The mass of overwhelming and absolutely conclusive evidence may seem to many of you, who have closely watched the progress of events, to have long since proved the value of this new treatment for diphtheria. If any of my audience have not had the opportunity of watching the development of the new method, I trust this *résumé* of its results may be helpful—not only in establishing the superiority of serum therapeutics over every other treatment of diphtheria, but in stamping upon the minds of all the great importance of resorting to it at the earliest possible moment in all cases except the most trivial, always remembering that it in no way need interfere with the older plans of local and constitutional drug therapeutics. I have not dealt with the isolated statements of the few who profess to believe that the case is still unproven. They are those who, as a rule, have the least experience of the disease; but after the facts which I have read you will be able to form your own opinions about the statement of one writer who cannot be considered as deficient in practical experience. Henning, of Königsberg, declares that he did not find the Klebs-Löffler bacillus in 50 per cent. of the cases of diphtheria which he investigated, and only in some of these was the disease clinically diphtheria, and he denies that the serum-therapy has given the best results. He affirms that with lime-water and an iced cravat he has treated nearly 2,000 cases of diphtheria with a mortality of 3 per cent. Leaving serum therapeutics out of the question, you can judge from your own experience if this writer has been treating the disease of which we have been thinking.

In conclusion, I find that I must postpone till a future meeting the consideration of the serum-therapy of tetanus, snake-bite, and other diseases.

In the case of tetanus the *experimental* evidence is

astounding. An animal may receive many thousands of times the lethal dose of the tetanus toxin and be saved with certainty by injecting the serum immediately afterwards; but when we come to apply the serum to the tetanus occurring in man the case is widely different. The microbe has many days' start, and the patient's blood is charged for a long time with the toxins which the microbes have been steadily manufacturing during the long period of unsuspected incubation. To meet such a condition a serum of 1 to 1,000,000 immunising power must be employed, and though it is claimed that the mortality has been reduced by a half through the use of the serum, the cases are far too few to establish the serum-therapy of tetanus. More promising results may be expected from serum-therapy in snake-bites, and the experimental researches in this subject read more like a chapter in the "Arabian Nights' Entertainment" than a sober record of scientific truths.

ART. II.—*Note on a Successful Case of Disarticulation at the Hip-joint; with Observations on the Method of Operating.*
By R. GLASGOW PATTESON, M.B. Univ. Dubl.;
F.R.C.S.I.; Surgeon to the Meath Hospital and Co.
Dublin Infirmary; Late Surgeon to Extern Department,
St. Vincent's Hospital.

THE gravity of the operation of disarticulation of the hip is recognised by all surgeons; so much so that in the hands of some it is never practised. This gravity depends mainly on two conditions:—1. The shock incident to the removal of such a large and important part of the body; and 2. The danger of hæmorrhage from the great and numerous vessels which surround the joint. If it can be shown that either of these factors is an exaggerated quantity the operation will undoubtedly be placed on a better footing; and such is my object in recording a brief note of the following case:—

Thomas H., aged fifty-two, a farmer, was admitted to the Meath Hospital on the 2nd September, 1895, suffering from a large, ragged ulcer in the middle third of the thigh, embracing its anterior and outer portions. This ulcer was the result of a burn from which the patient had suffered some years previously, and of which he gave the following history:—Ten years ago he received a very severe burn, the greater part of the skin on the outer aspect of the thigh being involved, from just below the crest of the ilium to a point slightly above the external condyle of the femur. With the exception of a small spot about the middle third of the thigh the burn healed up, and gave rise to no further trouble, except that this spot had to be continually dressed. About ten months ago the spot began to enlarge and became exceedingly painful, so much so that the patient could obtain rest neither by night nor by day. He lost flesh steadily, emaciating rapidly, the ulcer meanwhile extending gradually in size and assuming a warty, ragged condition, with an extremely foetid discharge. This combination—of pain and fœtor—along with the gradually-increasing weakness and inability for work, finally led him to seek relief.

On admission a ragged, excessively foetid ulcer, about the size of a saucer, was found occupying the site of the scar, and a considerable portion of the previously healthy tissues, in the middle third of the thigh. The edges were raised and indurated, warty and irregular; the floor was nodular and firmly fixed to the deeper underlying tissues; and the surrounding parts, especially the scar tissue, were for a considerable extent infiltrated by the new growth. So extensive was the disease that the only hope lay in amputation through the hip-joint; and so severe was the pain and so distressing the fœtor, that the patient readily acquiesced even in this extreme proposal. Accordingly, after consultation with my colleagues, I proceeded on September 13th to disarticulation through the hip-joint. Sir Philip Smyly and Sir William Stokes assisted me. The bleeding was simply and effectively controlled by means of a rubber tourniquet fitted with Porter's boxwood clamp. The clamp was laid over the external iliac artery, just above Poupart's ligament, and one end of the elastic band was then brought round the perinæum, meeting the other end just below the crest of the ilium, where they were crossed, the second end being then brought round by the perinæum meeting the first in the clamp over the iliac vessels. Slipping was prevented by two ends of bandage placed below the tourniquet in front and behind, which being turned back and passed behind and before were then tied above the crest of the

ilium on the opposite side. In this way the operation was rendered practically bloodless.

Disarticulation was effected as follows, the method employed being a modification of that outlined by Sir Joseph Lister in Holmes' "System of Surgery" (Vol. III., p. 721), and more fully described by Mr. Treves in his "Manual of Operative Surgery" (Vol. I., p. 532):—An incision about eight inches in length was made along the outer edge of the femur, commencing at a point about an inch above the upper margin of the greater trochanter, so as to avoid as far as possible the branches of the gluteal and sciatic arteries, and terminating just above the limit of healthy skin in the neighbourhood of the ulcer. This incision passed completely down through the periosteum to the bone in its entire extent. Two divergent lines were then made, arising from a point slightly above the termination of this incision, so as to encircle the limb at the lowest possible point above the limits of the disease. This included in depth only the skin and subcutaneous tissues down to the deep fascia, and served to map out, when retracted, the point at which the division of the muscles was subsequently to take place. The muscles attached anteriorly to the great trochanter were then dealt with; next those above; and lastly, those posterior; the last to be divided, and the only one presenting any difficulty being the obturator internus at its insertion into the digital fossa. The limb being now strongly abducted and rotated outwards, the capsule of the joint was opened on its anterior aspect, the ligamentum teres divided (after some trouble owing to its unusual shortness), and the head of the bone then turned outwards. The inner surface of the bone was now cleared, including the attachments of the shorter adductor muscles; and it was then easily freed down to the level of the skin incision, where a final sweep of the knife through the muscles completed the separation. The vessels exposed and requiring ligature, besides the superficial and deep femoral vessels, were few in number and easily secured; and the surface left after the operation was a practically bloodless one. Deep and superficial sutures were inserted and the wound dressed in the usual manner. Sterilised silk was used in all cases.

Troublesome vomiting, lasting for thirty-six hours, was the chief feature following the operation, with partial suppression of urine. The wound healed for the most part by first intention, except the inner angle where some pouching took place, and after a few weeks one or two of the silk ligatures used came away, the wound then speedily closing up. Recovery was uninterrupted, and the tempera-

ture showed an absolutely aseptic course. Owing to my leaving a week after the operation through illness these clinical notes are rather vague, and the subsequent treatment devolved mainly on Dr. Robert P. Lyle, our then House Surgeon, and Sir William Stokes, who very kindly took charge of the case; and to them the credit of a successful result is largely due.

The tumour was a typical epithelioma, developing in scar-tissue. A feature of interest in the case was the occurrence of some enlargement of the femoral lymphatic glands previous to the operation. At the time of amputation I did not feel sufficiently fit to proceed to any further operative procedure, and these glands were left to be dealt with on a subsequent occasion. Such procedure the course of events showed to be quite unnecessary, and the glands, which were only the seat of sympathetic irritation, completely disappeared. The patient was shown at the Surgical Section of the Royal Academy of Medicine on November 13th, 1896, exactly fourteen months after the operation, and there was no trace of recurrence in the stump; the glands had completely disappeared, and the man had gained 20 pounds in weight since the operation.

This successful result is, I believe, largely due to the two following reasons:—1. The diminution of shock as far as possible by the low section of the tissues of the limb, as advocated by Mr. Furneaux Jordan; and 2. The prevention of collapse by the bloodless method of procedure adopted. As regards the operation practised its advantages are so well summed up by Mr. Treves that I quote them with the fullest accord:—

“(a) *The elastic tourniquet can be applied.*

“(b) The femur is approached through the least vascular part of the limb, and disarticulation may be effected before the main mass of the muscles of the thigh has been cut.

“(c) The vessels of the part are divided transversely, and the main artery is severed late in the operation.

- “(d) Owing to the low position of the incision posteriorly, the branches of the gluteal and sciatic arteries are but little interfered with, and the hæmorrhage from these vessels is comparatively trifling.
- “(e) The muscles are divided transversely, and the wound surface is therefore small. The main muscular masses are divided low down, so that in a sense the limb is removed at a point further from the trunk than obtains in some of the other amputations, and *shock is hereby diminished.*
- “(f) An excellent stump is provided—i.e., the ischium (the main point from which the future artificial limb will take its support) is well covered; the cicatrix is brought to the outer side of the limb, and is as far removed from the anus as possible; excellent drainage is provided for.
- “(g) The position of the vertical incision will permit of the hip being explored before operation, or of excision being carried out should it be revealed that amputation is not necessary.” (Vol. I., p. 543).

I have italicised the two points that I think especially recommend this method—the absolute control of bleeding by the use of the elastic tourniquet, and the diminution of shock in the direction indicated—and that these are two of the most important factors in success all surgeons will readily admit. That they are slightly over-estimated I think the result shows, and proves the postulate with which I started—that diminution of either of these or both of these factors would improve the success of the operation. In applying the elastic band in the way I have described, perfect control of all bleeding vessels can be obtained. The methods of obviating hæmorrhage by preliminary ligature, or by skewers (!) or needles, may be regarded as quite unnecessary; and the latter may be finally relegated to the barbarities of surgery. In ampu-

tation of the hip, carried out after the above method, there is no danger of bleeding that any intelligent surgeon cannot control by the simplest surgical means. The cases in which fatal hæmorrhage has occurred are entirely due to faulty methods or injudicious selection of subjects for the operation. Large and rapidly-growing sarcomata of the femur are those cases in which the prognosis is worst, and in which the risk of hæmorrhage to an excessive degree is most likely to be present. But these are exactly the cases in which the delay is most often due to the surgeon not being able to make up his mind to the graver operation, and postponing interference to a stage when operation, if not fatal, is at least critical.

ART. III.—*Asymmetry of the Sternum.** By A. BIRMINGHAM, M.D.; Professor of Anatomy, Catholic University, Dublin.

My attention has been directed to the asymmetry of the sternum by a bone in my possession which presents this condition in a marked degree. I attributed the want of symmetry in this case to the more frequent use of the right than the left upper limb, for the changes in the bone were such as might be accounted for in this way.

Seeing that most people are right-handed, I thought it probable that a correspondingly large proportion of sterna would show changes referable to this prevailing habit. With the object of testing this view I examined 54 bones. At first sight, I must admit, I was surprised to find that my anticipations did not prove correct. Only about 50 per cent. of the sterna examined presented what I may call right-handed asymmetry, 37 per cent. were asymmetrical in the opposite direction, and the remaining 13 per cent. were approximately symmetrical.

* Read before the Section of Anatomy and Physiology of the Royal Academy of Medicine in Ireland, Friday, May 22, 1896. [For the discussion on this paper see page 75.]

Upon consideration it became evident that the sternum should be little, if at all, affected by right-handedness proper, for right-handedness simply means, in the majority of cases, that one hand is used in preference to the other for fine and skilled movements, but not necessarily for powerful efforts where strain is thrown on the limb. These fine movements, which only the right hand is, as a rule, capable of performing freely and perfectly, very often take place at the elbow or in the hand, and as such could produce no appreciable effect on the sternum.

When, however, any considerable strain is thrown on the shoulder, either through pressure directly applied, or through the pull of a weight carried in the hand, the outer end of the clavicle is depressed, the sterno-clavicular ligaments are rendered tense, and the inner end of the clavicle is brought to press forcibly on the facet of the sternum and the first costal cartilage. Such a condition of things occurring frequently on the same side, for a considerable period of time, would naturally produce one-sided effects on the sternum. The effects which might be expected in such cases are:—(1) A depression of the clavicular facet on the side of the excessive strain, accompanied by a diminution of the vertical depth of the manubrium on that side; (2) A diminution of the interval between the first and second rib cartilages on the same side, owing to the pressure of the clavicle upon the first costal cartilage; And possibly (3) an obliquity of the line of the symphysis between the manubrium and gladiolus.

That these conditions are frequently associated will be seen by the following Table, in which the results of an examination of 54 sterna are set out; but, as already mentioned, the relative frequency of their occurrence on the two sides in no way agrees with the proportion of right-handed to left-handed people.

No. of series	Clavicular facet depressed on	Vertical depth of manubrium diminished on	Interval between 1st and 2nd rib cartilages less on	Line of symphysis oblique, and lower on	Longitudinal curve present and convex to
1	Right	Right	Right	Not observed	None present
2	"	"	No difference	"	Not observed
3	Left (slightly)	Left (slightly)	"	"	"
4	Right	Right	Right	"	None present
5	"	"	"	"	Right
6	"	"	"	"	None present
7	Symmetrical	Symmetrical	No difference	"	"
8	Left	Left	"	"	Right
9	Right	Right	"	"	"
10	"	"	Right	"	"
11	"	"	"	"	"
12	Left	Left	No difference	"	Not observed
13	"	"	Left	"	None present
14	Right	Right	Right	"	Right
15	"	"	No difference	"	Not observed
16	"	"	Right	"	Right
17	Left	Left	Left	"	Left
18	"	"	No difference	"	"
19	Symmetrical	Symmetrical	Right (very little)	"	"
20	Left	Left	Left	"	Right
21	Right	Right	Right	Not oblique	Left
22	Left	Left	Left	Right	None present
23	"	"	"	Left	Left
24	Right	Right	Right	Not oblique	None present
25	"	"	"	Right	Left
26	"	"	"	"	Right
27	Left (slightly)	Left (slightly)	Left	"	"

Asymmetry of the Sternum.

No. of Sternum	Clavicular facet depressed on	Vertical depth of manubrium diminished on	Interval between 1st and 2nd rib cartilages less on	Line of symphysis oblique, and lower on	Longitudinal curve present and convex to
28	Right	Right	Right	Right	None present
29	"	"	"	Not oblique	"
30	Left (slightly)	Left (slightly)	Left	"	"
31	Right	Right	Right	"	"
32	Left	Left	Left	Left	Right
33 (age 16)	Symmetrical	Symmetrical	Right	Not oblique	None present
34	"	"	Left	Right	Left
35	Right	Right	Right	Not oblique	Right
36	Left	Left	No difference	"	None present
37	Right	Right	Right	Right	Right
38	Left	Left	Left	Not oblique	None present
39	"	"	No difference	Left	"
40	Right	Right	"	Right	Left
41	Left (slightly)	Left (slightly)	Left (slightly)	Left	"
42	Right	Right	No difference	Right	"
43	Left (slightly)	Left (slightly)	Right	Not observed	Not observed
44	Symmetrical	Symmetrical	Right	"	"
45	Right (slightly)	Right (slightly)	No difference	"	"
46	Right	Right	Right	"	"
47	Left	Left	Left	Left	Right
48	Right	Right	Right	Not oblique	"
49	Symmetrical	Symmetrical	"	Left	Left
50	Right (slightly)	Right (slightly)	"	"	None present
51	Left	Left	Left	Not oblique	"
52	Symmetrical	Symmetrical	No difference	Not oblique	None present
53	Right (slightly)	Right (slightly)	Left	Right	Left
54	Left (slightly)	Left (slightly)	No difference	Left	None present

While the number of left-handed to be found among 100 average individuals is very small, the percentage of sterna showing left-handed asymmetry is very considerable—viz., 37 per cent. This, however, is easily explained by the fact that many who are naturally right-handed carry weights habitually and by preference with the left upper limb.

In examining the sterna I was struck by the frequent presence of a longitudinal curve in the whole sternum, with its convexity to one side, most marked, as a rule, towards the lower end of the gladiolus. The presence of this curve, and the direction of its convexity, is noted in the Table.*

On analysing the foregoing Table it will be seen that—

- (a.) Out of 54 sterna a depression of the clavicular facet, accompanied by a diminution of the vertical depth of the manubrium on the same side, was present.

On the right side in 27 (in 3 of which the changes were only slightly marked).

On the left side in 20 (in 6 of which the changes were only slightly marked).

Seven were symmetrical in this regard.

- (b.) In the same number of sterna (54) the interval between the 1st and 2nd rib cartilages was the same on both sides in 15.

It was less on the right side in 24, on the left side in 15. Of the 24 in which the interval was less on the right side the condition accompanied symmetrical manubria in 3, but in the remaining 21 it was associated with a depressed clavicular facet and a diminution of the vertical height of the manubrium on the same side.

* I am much indebted to Professors D. J. Cunningham, Bertram Windle, Arthur Thomson, Charles Stewart, and Dr. F. G. Parsons, for kindly allowing me to examine the specimens of sterna in their collections.

Of the 15 in which the interval was less on the left side, one was associated with a symmetrical manubrium, in the remaining 14 the clavicular facet was depressed and the height of the manubrium diminished on the same side.

(c.) Observations were made on the obliquity of the symphysis between the manubrium and gladiolus in 30 sterna only. No obliquity was present in 12; the remaining 18 presented an oblique symphysis.

Of these the symphysis sloped downwards on the right side in 10 (with a depressed clavicular facet, &c., on the same side in 7, on the opposite side in 2, and with a symmetrical manubrium in 1).

The symphysis sloped downwards on the left side in 8 (with a depressed clavicular facet, &c., on the same side in 6, on the opposite in 1, and with a symmetrical manubrium in 1).

(d.) Observations on the longitudinal curvature were made in 46 specimens.

The curve was absent in 19, present in 27. The convexity was towards the right in 15 (with depression of the clavicular facet, &c., on the same side in 10, of the opposite in 5).

The convexity was towards the left in 12 (with depression of the clavicular facet, &c., on the same side in 5, on the opposite side in 5, and with a symmetrical manubrium in 2).

CONCLUSIONS.

The majority of sterna—viz., 87 per cent.—are asymmetrical, while about 13 per cent. are approximately symmetrical.

The most notable irregularity is a depression of the clavicular facet, accompanied by a corresponding diminution of the vertical depth of the sternum on the same side,

present on the right side in 50 per cent. of sterna, and on the left side in 37 per cent.

The interval between the articular facets for the 1st and 2nd rib cartilages is usually less on one side than on the other, being narrower on the right side in about 44 per cent., and equal in about 28 per cent. of sterna.

In the majority of sterna the symphysis between the manubrium and gladiolus is oblique, sloping downwards on the right side more frequently than on the left.

Finally there is, in about 59 per cent. of sterna, a longitudinal curve traversing the whole bone, the convexity of which is directed a little more frequently to the right than to the left.

ART. IV.—A Case of Ruptured Tubal Pregnancy treated by Abdominal Section; Recovery. By ALFRED J. SMITH, M.B.; Examiner in Midwifery, Royal University of Ireland; Professor of Midwifery, Catholic University, Ireland; Gynæcologist, St. Vincent's Hospital.

ON the 17th of August, 1896, about 4 30 p.m., I was sent for to St. Vincent's Hospital to see a patient in a state of profound collapse.

CASE.—The patient, E. R., aged twenty-eight, was married eight years, and was four times pregnant as follows—viz., the first, a full term child, alive; the second, a full term child, dead-born; the third terminated as an abortion at the third month. This event happened in the month of July, 1894. Since then the patient had not been at all well, and she sought relief in the different special hospitals in this city for a displaced uterus, with only temporary benefit. In May last her uterus was curetted and a pessary put in. Her changes did not return after the curetting, and the patient considered herself pregnant. However, about half an hour before her admission to hospital, she had occasion to get up on a chair to remove a sheet from a drying line in the yard of a house in the immediate vicinity of the hospital, and, to use the patient's own words, "she fell off the chair from weakness," and was unable to rise. She felt no

sudden pain, merely the intense sense of weakness. Dr. Harold, House Surgeon to St. Vincent's, saw the patient, and had her conveyed at once to hospital. When I saw the patient shortly after her admission, I found her greatly collapsed, extremities cold, face anxious-looking and blanched, and the forehead bathed in cold perspiration. She could with difficulty answer questions, and was unconscious of the presence of her husband. Temp. 96° F.; pulse 80, soft and compressible.

Abdominal Palpation.—Very sensitive over lower part of abdomen. A sense of resistance over right iliac region.

Vaginal Examination.—No hæmorrhage. The pessary, a Hodge, was removed. The uterus was retroflexed, movable, and displaced towards the left. The fundus slightly enlarged. Nothing positive was made out in either the right or the left broad ligaments.

Still her alarming condition pointed to ruptured tubal pregnancy. Dr. Tobin kindly saw the case with me, and urged the advisableness of immediate operation. Accordingly, assisted by Dr. Tobin, Dr. Harold giving the anæsthetic, I opened the abdomen. Large clots of blood were found filling the abdominal cavity. There was a momentary difficulty in making out the seat of the rupture, due to the quantity of blood-clots, and to the remarkable softness and indistinctness of the ruptured sac and distended Fallopian tube. The right broad ligament was grasped by the fingers, and a stout silk ligature applied by a Tait's large needle quite close to the uterus. This controlled the hæmorrhage. The foetus with sac were then removed. The pelvis was cleared of some of the large blood-clots, and hot saline solution poured in. This was not aspirated or sponged away. No drainage.

The specimen consists of a foetus, distended Fallopian tube with ovary.

The foetus is 9 cm. long, and is attached by the umbilical cord, which is 13 cm. long, with well-nourished spinal turns, to a tuft of placental tissue, which is seen sprouting from a rent in the superior border of the middle third of the Fallopian

tube. In the ovary is a beautiful example of the corpus luteum.

The chief points of interest seem to me to be—

1. The absence of acute pain at the time of rupture.
2. There was no hæmorrhage per vaginam, or any evidence of decidua being shed.
3. The uterus was in a position of retroflexion.
4. The operation was performed when the patient was in a state of profound collapse.
5. A large quantity of blood was left in the abdominal cavity; its absorption may have contributed to the remarkably rapid recovery of the patient—facts sufficiently unusual to specially justify me in bringing the case forward.

ART. V.—*Oil-rubbing in Dermatological Practice.* By H. S. PURDON, M.D.; Consulting Physician, Belfast Hospital for Diseases of the Skin, &c.

I WISH to direct attention to an ancient plan of treating chronic diseases—viz., by oil-rubbing, introduced into medicine by the celebrated Roman physician, Aurelius Cornelius Celsus, who lived during the reign of Augustus Cæsar. My attention was first directed to this plan of treatment by reading the late Dr. Inman's remarks on its value in his book on the "Restoration of Health," published in 1870.

I have often recommended oil-rubbing for delicate children and youths; the rubbing with the oil, to avoid fatigue, should always be done by another; the shampooing or massage adopted at the same time is likewise beneficial. The invalid's weight in a few weeks will be increased by several pounds; no loss of appetite, as is often the case, or even dyspepsia, as when oil or fats are taken by the mouth. I cannot do better than quote Dr. Inman's own words:—"The value of oil or oleaginous matter when applied to the skin without or with the addition of shampooing, may

be traced in modern times to the period when the medical profession went wild upon the importance of cod-liver oil. No sooner was the belief attained that this oil was good for consumption than it became the practice to give it in every case of phthisis, and none were allowed to die without having first partaken of the nauseous fluid. But it was soon found that many could not digest the dose, even when it was made as palatable as the art of the apothecary could effect. Yet the doctors resolved not to be baffled, and if they could not introduce the material in one way, they would in another, so they had it rubbed into the skin. In some instances the results following the practice were undoubtedly good, but it was attended with very unpleasant accompaniments. The patients who submitted to it became repugnant to the nostrils of their friends, and the odour from the skin often prevented the delicate stomach of the consumptive from receiving food; with the stink of fish-oil always in the nose every article of diet seemed to taste of it, and the rubbing with such a material was soon abandoned."

I have often used cod-liver oil as an outward application, but agree with what Dr. Inman has stated, the odour being so objectionable, also the fish-oil makes more "mess" than a vegetable one, so for years I have prescribed only good olive oil, or, as mentioned further on, cacao butter. To the oil a few drops of perfume can be added, such as oil of bergamot, or bitter almonds, and which is appreciated by the patient. Oil rubbing is, as already mentioned, very ancient. After the bath, in hot countries, the body was formerly anointed with oil, hence I suppose its use in fevers, such as scarlet fever, or where the skin is dry, harsh and hot. As for the oil closing up the orifices of the sudoriparous glands, or "pores," it is as well to say that these ducts, from the formation of the skin, cannot be closed effectually.

The above remarks apply to cases where the skin is entire and not diseased, but in cutaneous complaints when of a chronic nature, and as a local means of treatment in addition to medicines given by the mouth, I have adopted oil rubbing, both over the affected part and in its vicinity, as in the following diseases (the friction of the hand and shampooing being also very useful):—In xeroderma, where on various parts of the body the skin seems tightened, hard, and inelastic, or hangs loosely on the lower limbs, here oil rubbing is highly beneficial—although not curative it should be persevered with for months. The patient if any way strong can manage for himself, and will in a few weeks increase in weight and plumpness. The late Sir Erasmus Wilson, writing about xeroderma, truly remarked that “the history of xeroderma is a narrative of a general degradation of structure of the skin in which all the tissues participate; the corium is hard and thin, and ill-nourished, not unfrequently in the hands and feet breaking into deep fissures,” to which he might have added the liability of occasional eruptions of an eczematous character, and often an asthmatic condition. Some physicians recommend rubbing with “neat’s-foot” oil, but I do not find it any better than good olive oil.

Another disease in which I used oil-rubbing with advantage, and that in three cases, is pityriasis rubra. Without taking up valuable space I may say that in chronic squamous eczema, when the skin is not much infiltrated, oil-rubbing, adding occasionally some stimulating substance to the olive oil as that of oleum rusci or oil of cade, has proved serviceable, whilst in a few forms of erythema the plain oil has likewise given good results.

In conclusion, every medical man engaged in general practice knows the value of oil-rubbing in scarlet fever, not only to prevent the following dropsy, but also to keep the particles of skin during desquamation from floating

about. Now, in the present day, it is usual to add a little carbolic acid to the oil. Formerly, when engaged in general practice, I used in private cases cacao butter, partly on account of its firm consistence, so easily held in the hand, not too greasy, and also for its pleasant odour, and I would still be inclined to recommend it.

• LETTS'S DIARIES FOR 1897.

Messrs. CASSELL & COMPANY, Ludgate Hill, London, E.C., have courteously submitted to us copies of certain of Letts's Diaries for 1897, which are of use to the Medical Profession. First, we have Letts's Office Diary and Almanac for 1897, which contains a fund of valuable information, including a colonial and foreign banking directory and a parliamentary guide to both Houses of Parliament. It is a substantially bound volume of prepossessing appearance. Next comes Letts's Medical Diary in two forms—one, plain, with space for the entry of 54 patients' names; the other, interleaved, with room for 108 names. Both provide for all matters of interest to the general practitioner, including space for the entry of daily professional visits, accouchements, vaccinations, and so on. Then there are two beautifully neat small diaries—Letts's Convenient Diary, and Letts's Pocket Diary. Both contain calendars, an account of the postal regulations at home and abroad, a wages table, and an almanac for 1898. Lastly, the parcel includes a copy of Letts's medical prescription copyist, which is now so familiar as to need no further description. The prices of all these publications are very reasonable, considering the excellence of the article. We have much pleasure in recommending Letts's Diaries to our readers.

ARMY MEDICAL DEPARTMENT.

WE have been informed by the Director-General that a Competitive Examination for 35 Commissions in the Army Medical Staff will be held on February 5, 1897, and following days. Full particulars will be found in our advertisement pages.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Text-Book of Bacteriology, including the Ætiology and Prevention of Infective Diseases, and a Short Account of Yeast and Moulds, Hæmatozoa and Psorosperms. By EDGAR M. CROOKSHANK, M.B., Professor of Comparative Pathology and Bacteriology, and Fellow of King's College, London. Fourth Edition, reconstructed, revised, and greatly enlarged. London: H. K. Lewis. 1896.

PROF. CROOKSHANK is evidently determined not to allow his book on bacteriology, the first edition of which, published 10 years ago, may be described as the pioneer English work on the subject, to fall behind the numerous competitors that have meanwhile entered the field. The text-book, in its present form, is a very beautiful book, a very readable book, and a very *independent* book. We need hardly spend much time in justifying the first two statements, the truth of which will be at once apparent to the most casual reader. In creamy smoothness of paper, flawless legibility of typography, and wealth of brilliantly-coloured illustration, the present edition of "Crookshank" is well-nigh without a rival. The author's style can hardly be described as attractive. His sentences are short, he is always lucid, and—at any rate when dealing with subjects which he has himself investigated—generally interesting. The *independence* of Prof. Crookshank's text-book becomes a marked feature whenever he discusses a question upon which his own results differ from those held by other acknowledged authorities. Take, for example, his demolition of the position occupied by Klein

and the Local Government Board as to the now famous outbreak of cow-scarlatina at Hendon. He analyses the evidence on which Klein's conclusions are based, and finds that it does anything but justify the deductions sought to be drawn from it, whilst at the same time he produces evidence which seems conclusive that the disease in the Hendon cows was merely cow-pox, and "that the milk was not infected by the cows, but with the virus of scarlet fever from some human source which Mr. Power (the Board's Inspector) failed to discover." The importance of this quotation lies in the fact that the theory of scarlatina, based upon Klein's and Power's investigations of the Hendon outbreak, is the one officially adopted by the Public Health authorities of Great Britain.

Another good example of the author's scientific scepticism is to be found at the end of his discussion of the typhoid question. "Sufficient has been said to show that bacteriological reports, in which it is stated that the typhoid fever bacillus has been found in water causing typhoid epidemics, must be accepted with great reserve; and further, that no one is justified in stating that the typhoid fever bacillus is undoubtedly the cause of typhoid fever. It is not found in every case of typhoid, it is not found in the blood, but it is found in those tissues which are commonly the seat of secondary invasion of epiphytic bacteria whose normal *habitat* is the intestinal canal. Lastly," goes on Prof. Crookshank, "as the disease does not exist in the lower animals, the crucial test cannot be applied. The ætiology of typhoid fever is still enveloped in doubt, and the nature of the contagium *has not yet been determined.*"

It would be very desirable that these sceptical views of a deservedly eminent authority should become widely known to the profession; for nothing delays so long our acquisition of truth on any subject as the universal tacit acceptance of an unproved hypothesis—the assumption that finality has

been reached when we are, perhaps, as far from it as in pre-bacteriological days. The author appears, however, to accept "as a working hypothesis" the commonly-held view that the typhoid virus (whatever it may be) is contained in the excreta and, by contaminating water supplies, &c., spreads the disease. Prof. Crookshank might have even strengthened his case in favour of a sceptical view as to the rôle of the Eberth-Gaffky bacillus by reference to the acknowledged difficulty of obtaining "typical" typhoid bacilli by plate cultures from typhoid evacuations, and the non-success of two recent workers in London, who strove to isolate the bacillus from the fresh sewage of a London fever hospital, in which, theoretically speaking, it ought to have been present by the million. Again, we fail to find any reference to the important research of Sanarelli on the mutual inter-relation of the *B. typhosus* and *B. coli* in the production of typhoid. Indeed, one may fairly say that Prof. Crookshank's treatment of the whole typhoid question is sketchy and incomplete—one of the weakest points in the book. The weakness extends to his account of the practical methods employed for the detection of bacilli of the typhoid group in drinking-water.

On page 148 we are told, under the head of Parietti's method, that "if the broth becomes turbid in a day or two the typhoid fever bacillus is present in the form of a pure-culture"—a quite inaccurate statement, seeing that the bacilli almost invariably isolated from turbid Parietti-tubes much more closely resemble *Bacillus coli*! We have failed to find any reference to the very excellent method of dealing with suspected drinking-water by running a large quantity through a Pasteur or Bukefeld bougie, and plating out the "sludge" in carbolised gelatine. Reference to perhaps the most important piece of evidence in favour of the ætiological relation of Eberth's bacillus is also omitted—the fact that the serum of typhoid patients exercises a marked destructive influence on the bacillus, causing almost instant immobilisation

and then "agglutination" of the more or less devitalised bacilli. This method, which is known as Widal's, has been shown by Prof. Delépine, of Manchester, to be available for the diagnosis of typhoid, and we have ourselves lately been able to confirm the truth of the above-mentioned observations. It is, indeed, difficult to account for them on any other hypothesis, save that of the specific relation of Eberth's bacillus to typhoid fever.

One of the strongest points of Prof. Crookshank's text-book is the adequate treatment accorded to the various exanthemata in men and animals, for which no bacterial ætiology has as yet been worked out. Thus we have most valuable chapters on cow-pox, small-pox, cattle-plague, sheep and horse-pox, in which the history and symptoms of these eruptive maladies are discussed in most thorough-going style, and a vast array of interesting and valuable facts adduced which are not to be found in the ordinary text-books of bacteriology. The author is to be most heartily congratulated on avoiding the pernicious error of dismissing, in a few lines, some of the most important of human and animal diseases, because we have not yet succeeded in connecting them with specific micro-organisms.

The exigencies of space prevent us from following the author through his lengthy account and exquisitely illustrated description of tubercle and actinomycosis. In connection with the former it may be remarked, *en passant*, that a useful *résumé* is given of the report of the Tuberculosis Commission on the infective potentiality of tuberculous meat and milk. Three or four sentences may, perhaps, be quoted here. "Tuberculous matter in milk is exceptionally active in its operation upon animals fed either with the milk or with the dairy produce derived from it. *No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter.*" And finally, "Ordinary processes of cooking applied to meat which has got con-

taminated on its surface are probably sufficient to destroy the harmful quality. *They would not avail to render wholesome any piece of meat that contained tuberculous matter in its deeper parts."*

We fail to find any reference to Coppen Jones' and Fischel's researches into the morphology of the tubercle "bacillus," and its relation to *Streptothrix* is not even hinted at, nor, though the author states that "short-branched threads" are formed, does he seem to attach to that fact the importance it deserves from its bearing on the systematic position of the organism in question.

Turning to the very detailed and lavishly illustrated chapter on Actinomycosis, whilst according the highest praise to the way in which the subject is handled, we cannot refrain from expressing our opinion that the author will find very few pathologists and still fewer botanists to follow him where he says that the characters of the ray-fungus "bring it into relation with a higher group of micro-fungi (!), Basidiomycetes." Suggested similarities to teleuto-spores, paraphyses and "fairy rings" are, having regard to the present advanced state of mycology, greatly to be deprecated.

An interesting and valuable extract from the final Report of the Vaccination Commission, published only in September last, is appended, and contains that portion of the document which deals, *inter alia*, with the author's well-known heterodox views as to the relation between vaccinia, cow-pox, and small-pox. It is highly instructive, and we can heartily commend the impartiality and sound judgment displayed by the author in placing before his readers this important Report, differing as it does so strongly from his own expressed opinions.

The bibliographical appendix is very incomplete, and in many cases not brought up to date.

To sum up, with regard to Prof. Crookshank's text-book, we must say no more than what we have already stated at the beginning of this notice—it is *beautiful, readable, indepen-*

dent, and, in the main, *reliable*. In its new, enlarged, and remodelled form it is undoubtedly one of the most acceptable of recent additions to British bacteriological literature.

Electro-Physiology. By W. BIEDERMANN. Translated by FRANCES A. WELBY. Vol. I. London: Macmillan & Co. 1896. Pp. 552.

THE appearance of this work in 1895 marked an epoch in the literature of general muscle and nerve physiology. Since 1879, when the remarkable articles on the general physiology of muscle and nerve by Professor Hermann were published by him in his "*Handbuch der Physiologie*," no attempt has been made to collect and systematise the innumerable works which have appeared on the subject. These are scattered, and many of them difficult of access, and their bulk has become so enormous that, as Professor Biedermann says in his preface, any student who is not a specialist finds it impossible to gain a critical acquaintance with the whole subject. He modestly puts forward his own pretensions to undertake a synopsis of the present condition of this branch of physiology, pretensions which will be fully admitted by everyone who knows the numerous and valuable contributions to science which we owe to his industry and genius.

The present volume is divided into five chapters. In the first, on the organisation and structure of muscle, a most admirable account of the histology of the contractile organs is given, starting from the muscles of protozoa (cell-muscles), and tracing the gradual evolution of the tissue until we reach the striated muscles of vertebrates and arthropods. We do not know any work in which this interesting but difficult subject is more clearly and pleasingly discussed.

The second chapter deals with the change of form in the

muscles during activity, and is divided into several sections treating of the influence on the power of contraction, of the nature of the muscle, strength of excitation, load, fatigue, temperature, and chemical agencies. In this chapter too, are considered the summation of stimuli and tetanus, and the conductivity of muscle.

The third chapter is on the electrical excitation of muscle, and the fourth on the electro-motive action in muscle. In this chapter there are four sections, describing in order the current of rest, the current of action, the positive variation of the muscle current, and the secondary electro-motive manifestations in muscle.

The fifth and last chapter, a most attractive one, is on the electro-motive action of epithelial and gland cells.

At the end of each chapter an extensive bibliography of the subject of it is given. The volume is illustrated by 136 figures in the text, and a good index has been added.

It would be impossible in our space to give any summary of the contents of such a volume as this. We may, however, say that the views of Hering on assimilation and dissimilation of all living tissues (views practically identical with those of anabolism and katabolism made popular in this country by the classical works of Gaskell), lie at the foundation of the theories of muscular action put forward by Biedermann. The author further shows that when an electrical stimulus is applied to a muscle or other irritable protoplasmic structure the effects are not limited to the moment of closure and opening of the current, but are manifested during the entire period of closure, and for some time afterwards. That these effects are polar. That in all, with very few exceptions, an excitatory effect is manifested at the kathode at and during the closure, while the anode is the seat of an excitatory action at and after the opening; an inhibitory effect exists at the

anode at and during closure, and at the kathode at and after opening. "The persistence of the excitatory or inhibitory effect of current during closure, as well as the localisation and antagonism at the poles, prove incontestably that *the consequences of electrical excitation are only a special manifestation of commencing electrolysis in the living substance.*"

As regards the existence of the so-called resting current, Professor Biederman sides with Hermann, and places the seat of the electro-motive action at the line of demarcation between living and dying substance. According to Hering in every living substance ascending and descending alterations are taking place. So long as these are in equilibrium no current can be detected by the most sensitive galvanometer. But when a part is injured, the down changes near it are increased, equilibrium with the other parts no longer exists, and the injured part is negative to the uninjured.

The difficulties of translating such a work as this must be very great, and on the whole Miss Welby may be congratulated on her work. The translation, however, is not an absolutely ideal one. The singular lucidity of the original has not been reproduced. Not only do we meet with awkward expressions—such as a muscle *serving up* contractions, the continual use of the Latin *re*, as "The facts submitted above *re* discharge," &c., &c.—but in many cases the rendering is so obscure that it is difficult to catch the meaning without reference to the original, while in some instances the meaning of the author is not reproduced at all. We have, in going through the text, noted several passages bearing out these remarks; of these we may give a few. On page 115 we read, "We can readily see that the height of the summated twitches must be greatest—i.e., doubled—when the interval of both stimuli, like the stage of rising energy, is a simple contraction." The original s. 98 reads—"Man sieht leicht, dass die Höhe der summirten Zuckung dann am grössten, d.h.

verdoppelt sein müsste, wenn das Intervall beider Reize gleich dem Stadium der steigenden Energie einer einfachen Zuckung ist." Which means that the height of the contraction is doubled if the interval between the two stimuli is equal to the period of the rising energy (that is, shortening) of a simple twitch. On the same page, a few lines further on, "equivalent" does not give the sense of *gleichlanges*, while at the bottom of the same page "the apex of the summated twitch falls so much farther from the first stimulus in proportion as it lies higher," is the very opposite of what the author states. On page 358, after describing how dipping one end of a Sartorius into distilled water does not produce electric inequality between the part which has been immersed and that which has not, we read—"But if part of the moistened muscle section is warmed in water at 40° C., it exhibits on leading off the same electro-motive action as before." While on s. 305 we read, after dipping in water at 40° C., "so findet mann den Muskel bei gleicher Ableitung wie vorher stets elektromotorisch wirksam." Which means that the muscle is now found when led off in the same way as before (that is, from the immersed and non-immersed parts), electromotorially active; the very opposite of what is stated by the translator. On page 484, in speaking of the variation produced in the resting current of the mucous membrane of the tongue of the frog by electrical stimulus, it is said that the duration of the latent period "decreases inversely with increasing strength of current," while the original s. 412 runs—"dass es mit wachsender Stromstärke abnimmt," or that it diminishes directly with increasing strength of current—not inversely, as translated. Finally, on page 493, in describing Hermann's method of leading off the skin current from the legs of a frog, "behäuteten Beine" is translated "skinned legs"—which means legs with the skin removed, while the original means legs with the skin still on.

We have marked many other defective renderings, but these will suffice to show that our criticism is not unjustified. This criticism we make in no captious spirit; we fully recognise the valuable service Miss Welby has rendered to physiological science by making this great work accessible to many readers to whom it would otherwise remain a closed book. We look forward with pleasure to the publication of the second part on the nerves and electric fishes, and we have no doubt that in the second volume the oversights in the translation which we have noticed will be much less apparent.

The Laboratory Text-book of Public Health. By WILLIAM R. SMITH, M.D., D.Sc., F.R.S. Edin.; D.P.H. Camb.; Professor of Forensic Medicine and Director of the Laboratories of State Medicine, King's College. London: Henry Renshaw. 1896. 8vo. Pp. 322.

THIS work impresses one considerably "on the view." A gorgeous cover, thick white paper, large clear-cut type, and numerous well-executed engravings, contribute to make its study easy and attractive. We may be wrong, but we have an idea that one cannot learn much out of a book in which the type is too small and crowded, the paper thin and of bad colour, and the illustrations badly executed. Prof. Smith's work has, however, more than good paper, type, and engravings to commend itself to our notice; it contains a large amount of information of prime importance to the student of sanitary science. The subjects are exactly those which the candidates for diplomas in Public Health *must* know if they desire to render success certain. The first part of the work treats of the physical properties of matter, in its three great forms of solid, liquid, and gas, and the instruments used in the examination of these forms of matter. The barometer, thermometer, specific gravity bottle, hydrometer,

&c., are described very accurately and fully. Part II. deals with the analysis of potable waters. Although the author gives the details of the Frankland process of water analysis, in which both the organic carbon and nitrogen are determined, he points out that it is only in the hands of a special water analyst that this method yields reliable results. Wanklyn's simpler method—a knowledge of which is easily acquired—is that which is now all but universally employed. Part IV. is devoted to very full accounts of the method of examining air, from a sanitary standpoint. Nothing is said as to determination of the composition of atmospheric air by the methods of Dumas, Boussingault, &c., for the student in sanitary science is never questioned on the subject of the complete analysis of air. The author, therefore, deals only with carbon dioxide, and with the impurities of the air, referring specially to the air of towns.

In Part IV. the newest methods for the analysis of foods in reference to the detection of adulteration, and of defects in quality, are given. The table showing the correspondence between the amounts of alcohol in spirits and its specific gravity and strength would be improved by the addition of one showing the percentage of added water in spirits below 25 degrees under proof—the lowest degree allowed by law to be sold without declaration of strength.

Part V. is confined to microscopic examination of parasites (most of which have special interest to the student of sanitary science), starches, and water sediments.

Part VI. is a long one, and treats of bacteriology. The information given is up to date. In the appendices, which are 7 in number, the preparation of standard solutions, the interpretation of analytical data, the preparation of nutrient materials for cultivations, atomic weights, the metrical system of weights and measures, are treated upon. Some of the matter might have been better given in other places—for example, in the chapters on bacteriology the preparation of nutrient materials might have been placed.

There are no fewer than 82 illustrations in this book—a work which we strongly recommend to the sanitarian, pathologist, and medical student.

The Imperial Health Manual: being the Authorised English Edition of the Official Health Manual issued by the Imperial Health Department of Germany. Edited by ANTONY ROCHE, M.R.C.P.I., &c.; Professor of Medical Jurisprudence and Hygiene, Catholic University, &c. Dublin: Fannin and Co. 1896.

THE existence of a work such as that reproduced from the German by Dr. Roche is another proof of the great interest taken by the German Government in all that concerns the health, education, and technical instruction of the German nation. Would that our Government took a similar enlightened view of its duties! Both the Imperial Government of the Empire and the governing bodies of the individual States composing it spend vast sums of money in the maintenance of science laboratories, agricultural stations, technical schools, and other institutions designed to promote the health and material prosperity of the people. In our countries only a trifling proportion of the revenue is expended on such purposes.

The Imperial Manual of Health deals with so many subjects that none of them can be exhaustively dealt with in a book of moderate size and offered for 2s. 6d. But so far as it goes, the most important part of the various subjects are presented to the reader in terse but clear language. The rather lengthy and involved sentences which characterise German are rendered into simple and concise English. The earlier portions of the book are altogether physiological, and are illustrated by several woodcuts showing the structure of the brain, the eye, the ear, and other organs. A well-executed coloured illustration exhibits the vascular structure

of the whole body. Air and water are described briefly but clearly, and food is discussed at some length, 62 pages being devoted to the subject.

There are few, if any, subjects relating directly, or even indirectly, to public health and private hygiene which are not touched upon in this valuable little book: here are a few topics not generally treated upon in works of the kind—spices, care of the mouth and teeth, electric light, scavenging, pleasure resorts, funeral obsequies, removal of waste water from factories, improper division of school work, lightning stroke, insurance against sickness, taking of medicines, &c.

The only fault we have to find with the work is the absence of an index and the very brief reference to the water-carriage system of excreta removal. The latter defect shows how little progress has been made in Germany in reference to the use of water-closets. As the book is sure to reach a second edition, we venture to suggest to its English editor that the addition of some foot-notes to it, supplying information in reference to British sanitation, would be valuable. Much as we are indebted to foreign sanitarians, it must be admitted that the words of a great French writer—"England is the home of sanitary science"—still hold good.

Animal Tuberculoses and their Relation to Human Tuberculosis.

By ED. NOCARD, Professor of the Alfort Veterinary College. Translated by A. SCURFIELD, M.D. Ed., D.P.H. Camb. London: Baillière, Tindall, & Cox. 1895.

DR. SCURFIELD, the distinguished Medical Officer of Health for Sunderland, has rendered to us a useful service by translating Dr. Nocard's work. For centuries the popular belief was that tuberculosis was a hereditary disease—that children were born with the seeds of the fell disease in them, and that in due time the seeds would almost certainly develop into the fatal "consumption." Dr. Nocard has shown con-

vincingly the incorrectness of this old-fashioned belief. He has brought forward many striking proofs of the highly contagious nature of tuberculosis, and has shown how widespread this disease is amongst the domesticated animals. In Paris recent statistics show that it affects 23 per cent. of the poultry. Statistics collected from various sources are quoted to show how extensively tuberculosis prevails amongst milch cows and bullocks. That phthisis may be communicated to man by the ingestion of the flesh and milk of animals affected with that disease seems incontrovertible. Dr. Nocard shows that the converse of this is possible—a tuberculous man may be dangerous to a healthy cow. The means of preventing the spread of tubercular infection amongst cattle is discussed at some length, and a favourable opinion is expressed as to the value of tubercular injection as a means of determining the existence of the disease, even when the animal appears to be perfectly healthy. All who are interested in tuberculosis should provide themselves with Dr. Nocard's work.

The Surgery of the Chest. By STEPHEN PAGET, M.A., Oxon., F.R.C.S.; Surgeon to the West London Hospital and to the Metropolitan Hospital. Bristol: John Wright and Co. 1896. Demy 8vo. Twelve Plates. Pp. 500.

IN this book Mr. Paget has endeavoured to bring together "the whole subject of the surgery of the chest both in injury and in disease." About no region of the body has greater interest centred of late years, and nowhere has operative surgery been more active. As a natural result there has accumulated an enormous mass of literature, and to critically review this, guided by his own extensive personal experience, has been the task of the author.

The book has been divided into two parts: the first deals with Injuries, the second with Diseases of the Chest. In

the first chapter some anatomical landmarks are given, and, we think, these might have been described with a little more precision, particularly as they concern the lower limit of the lung and pleura. In his account of rib fractures, the author, we are glad to see, points out the fallacy of the usual division of these injuries, and quotes Bennett's analysis of "seventy specimens of fractured ribs, plainly due to indirect violence," in which not one was found showing outward displacement. The chapters which deal with the complications of chest injuries are full of interest, and particularly those which concern hæmorrhage from the lung and wounds of the heart. At the present day there would appear to be considerable divergence of opinion as to the indications for operating in the former class of cases. An interesting case of M. Michaux is quoted in which recovery followed exposure of the bleeding point near the root of the lung and plugging the wound with iodoform gauze. The opinions of French surgeons on this subject are briefly given as they were expressed at the Société de Chirurgie (1895). The account of the Surgery of the Heart, both in this and the second part of the book, affords delightful reading. Cappelen's case of heart-rupture is given in the chapter on Pericardial effusions.

In Part II. the chapters devoted to Empyema are of primary importance, and the subject is dealt with in a thoroughly able and satisfactory manner. The author has been careful not to encroach on the purely medical aspect of the subject, and this wise precaution is noticeable throughout the entire work, and is not the least potent factor in contributing to the excellence of the book. Schede's work has received the prominence due to it. A tabular statement of his cases of knife and bullet wounds is given, as well as a table of his operations for empyema up to 1890, and the original account is given of his operation known as Thorax-resection. This operation differs from Estlander's in that Schede removes the thickened pleura as well as the ribs

which overhang the empyema cavity. Mr. Paget says:—
 “It is certainly not an operation that most surgeons would welcome if they could honestly avoid it, nor would the results of it, if it were generally practised, be such as Schede himself has obtained;” but he goes on to point out that “the danger is less than at first sight appears One is not really operating on an empyema but removing a great cage or frame of ribs and thickened pleura, beneath which there are no structures that one need either respect or fear.” The operation is, of course, performed only in very exceptionally bad cases, “as a last desperate necessity, a confession of failure.”

In Chapter XIX. a sufficiently complete account of abscess of the lung and bronchiectasis is given. We venture to think that the author trusts somewhat too much in records of cases; we ourselves have always regarded these as rather indigestible mental pabulum, but this may be a personal peculiarity and misfortune. In reading the chapters on the surgery of tubercular pulmonary disease, we cannot but recall to mind the words of Erichsen in reference to similar operations—are they “surgical triumphs or operative audacities?” The legitimate surgery of Phthisis would appear to be confined to very narrow limits—to drainage, as simply effected as possible, in cases of fetid pyo-pneumothorax and in certain cases of large tubercular cavity.

Dr. Cayley’s operation for profuse hæmoptysis is condemned, we think, with scarcely sufficient force. The object of this operation is to arrest hæmorrhage by inducing pneumothorax and collapse of the lung by an incision through the pleura!

M. Tuffier’s operation in 1891, and that of Mr. Lawson in 1893, of resection of the lung apex are given, and most surgeons will agree with the author’s views with regard to this operation: “The indications for the operation are so doubtful, the advantage of it so uncertain, and the proportion

of deaths from it so large, that at present there is no clear reason why the surgeon should undertake it."

We have referred only to a small portion of the matter contained in this most valuable and well-written book, and we congratulate the author on having so ably filled a gap, which has till now existed, in the modern surgical literature of this country.

Memorials of the Faculty of Physicians and Surgeons of Glasgow (1599-1850). With a Sketch of the Rise and Progress of the Glasgow Medical School and of the Medical Profession in the West of Scotland. By ALEXANDER DUNCAN, B.A. Lond.; Secretary and Librarian of the Faculty. Glasgow: MacLehose & Sons. 1896.

THE professional patriotism of the Diplomates of the Faculty of Physicians of Glasgow has been well displayed in the preparation of this memorial volume. It is a really splendid specimen of latter-day bookmaking; the typography and style of illustration are excellent, and the book now laid before us reflects the highest credit upon the skill and good taste of both printer and publisher, as well as upon the energy and literary attainments of the author. There is a great deal of interesting and instructive narrative included within the covers of this volume. From the outset "the members of the Faculty were thus not lacking in what they considered their duty to God, neither were they neglectful of what was due to themselves. Laws to regulate points of medical ethics were frequently made and renewed. In the very first meeting held in 1602 the subject crops up, and a few days later 'it is statute and ordanit that non of ye brethren tak ane patient out of ane others hand until the time y^e the sd brother be fully satisfiet for his paines and y^e at the visitours sight and gtermasters, under the paine of paying to the box 40 lbs. unforgiven.'"

For both professional and general readers the annals of an institution which gave the benefit of its medical education to the author of "Röderick Rádom" and the author of "Zeluco" must possess a more than transitory interest. Readers of the novels of Smollett are often unaware that he wrote an "Essay on the Medicinal Uses of Tar Water." In his case *physic* may be said to have been the accident, and literature the *design* of his career; the reverse of this statement would be pretty nearly true of Dr. John Moore.

"In 1852 the Society appears to have been a good deal exercised about a case of alleged plagiarism from Claude Bernard, by one of the members, in a paper on 'The Origin of Sugar in the Animal Economy.' After some discussion, a motion of Dr. Andrew Buchanan and Mr. John Reid was adopted, that it was no part of the function of Society to exercise moral censorship over its members, and they therefore resolved that it was inexpedient to proceed further in the matter." And so did Caledonian good sense throw unprofitable moral questions overboard. "When a Scotchman compiles Scotch annals, the result must needs be a canny brew. . . . After all there are none like them, these hardy, heartsome Scotch." So says a recent Yankee reviewer; so say we.

Deaf-Mutism: A Clinical and Pathological Study. By JAMES KERR LOVE, M.D.; Aural Surgeon to the Glasgow Royal Infirmary; Honorary Aurist to the Glasgow Deaf and Dumb Institution. With Chapters on the Education and Training of Deaf-Mutes. By W. H. ADDISON, A.C.P.; Principal of the Glasgow Deaf and Dumb Institution. Glasgow: James MacLehose & Sons. 1896.

IN this handsome and well-printed octavo of 369 pages the author gives an excellent account of the phenomena of deaf-mutism, and the present state of our knowledge of

this important subject. "It was the want of English medical literature on the subject which prompted the authors to undertake this work." It "attempts to deal with deaf-mutism in a broader and more comprehensive way than it has been dealt with hitherto in this country. It originated in a desire to found a scientific classification of the deaf for educational purposes." The authors have dealt thoroughly and well with their self-allotted task, and we consider that they deserve our best thanks and congratulations.

The earlier portion of the volume (Chapters I.-VIII.) deals with the Clinical and Pathological aspects of the conditions in question, while the succeeding part (Chapters IX.-XIV.) deals with the Educational problem. There is no divergence in the teaching of the two parts; "but it must be understood that each author is responsible for the facts and opinions of his own section only." The former section is the work of Dr. J. Kerr Love; the latter of Mr. W. H. Addison. Dr. Love is also responsible for the colonial and foreign figures.

It is but of recent years that the very important subject of the volume before us has emerged from the neglect with which it had ever before been treated. In this, as well as in other departments, our nineteenth century—let pessimists sneer as they will—can well afford to boast of the advancements made in the interests of philanthropy. It was the work of the distinguished Dublin aurist, Sir William R. Wilde, which first placed the clinical study of deaf-mutism on a scientific basis. The author, who was also one of the Census Commissioners of Ireland, had special facilities for obtaining statistics and other data for such a work. Accordingly, his book "supplied us with our first accurate figures regarding the extent of deaf-mutism in these islands, and it contains the statistical notices of the causes of acquired deafness." The authors have had, how-

ever, ample ground still left them for original investigation and practical suggestion, and we feel bound to say that not an inch of it seems to have been left untouched. The amount of information collected is really enormous, and speaks in terms which cannot be contradicted of the enthusiastic energy and the conscientious care which the authors have brought to bear upon their work. It would be idle for us to attempt to examine the details of a work like this. Not only every specialist, but every general medical practitioner, and every philanthropist should make himself acquainted with the contents of this most instructive and praiseworthy book.

A Treatise on Cholelithiasis. By B. NAUNYN, M.D.; Professor of Clinical Medicine in the University of Strassburg. Translated by ARCHIBALD E. GARROD, M.A., M.D., F.R.C.P. London: The New Sydenham Society. 1896. 8vo. Pp. 197.

THE name of Professor Naunyn has been long and honourably connected with the subject of diseases of the liver and gall-bladder. In the monograph which Dr. Garrod has now translated for the New Sydenham Society the Professor gives an exhaustive account of gall-stones and biliary colic. His treatise was published at Strassburg in the beginning of the year 1892, just five years ago. It was written as a tribute of respect to his predecessor in his chair, Dr. Adolf Kussmaul, to whom it was dedicated by the author, "in the name of the Medical Faculty of the Kaiser Wilhelm's University in Strassburg."

The topics discussed are the form, structure, and composition of gall-stones, the physiology of the calculus-forming substances, on the solution of these in the bile, the formation of gall-stones, the production of the calculus-forming substances within and without the gall-bladder, the causes of

cholelithiasis, its symptoms and treatment. At the end are a full bibliography and an index.

The work of translation has, in the main, been well done. At page 181 this uncouth sentence occurs: "The moment at which general infection threatens is often not easy to hit upon in individual cases." The meaning is quite clear, but it would run more smoothly thus: "In individual cases it is often not easy to hit upon the moment at which general infection threatens." At page 135 "Oberförster" should be rendered into English by "ranger." At page 123 "China wine" is strange. Surely it should be "Cinchona wine," "China bark" being "Cinchona bark." "Cholangitis" (*passim*) should preferably be "cholangiitis." "Radicles" (page 130) is a mis-spelling for "radicals"—*i.e.*, the radical (or root) branches of the portal vein. "Grainger Steward" occurs on page 133. In fact, the proofs seem to have been rather carelessly revised, for on one page alone (156) we find "typanites," and "senosis." There is no such word as "hilus" (page 165), it should be "hilum." These may appear minor faults in the eyes of some readers, but the New Sydenham Society has a great reputation to uphold and *noblesse oblige*.

A Manual of Midwifery. By W. E. FOTHERGILL, M.B., &c. Edinburgh: William Clay. Crown 8vo. Pp. 475.

THE Manual before us has avowedly been written, in the first instance, for Edinburgh men, and is an effort to crystallise and embody the teaching that obtains on this subject in that city.

It thus becomes possessed of an interest apart altogether from its merits as an obstetrical work, and can be read with much profit by those even most opposed to the conclusions arrived at as to the proper methods of dealing with obstetrical complications.

The author but rarely wanders beyond the limits of his own city to seek for authority in support of his views. The work, in consequence, is somewhat stunted, and can hardly be recommended as an absolute guide to midwifery, or even as an examination treatise for those studying outside the range of Edinburgh influence.

Before proceeding further in our comments on the book itself, we wish to remark how excellently it has been turned out by the enterprising firm of publishers. As a mere exhibition of cheap and, at the same time, high art it would be difficult to beat. We include in these observations the binding, the letterpress, and the many illustrations.

The work in many respects departs from those formerly published, in that much consideration is given to physiological and theoretical subjects, whilst practical portions of the work are unduly curtailed. Thus, eight pages suffice for the description and treatment of puerperal sepsis, whilst menstruation occupies eleven pages of the author's space.

We are pleased to see that anatomical details are omitted as much as possible, and are of opinion that this example could be followed with advantage in similar works. The subject can much better be studied by other methods, and when introduced at any length into midwifery manuals merely adds to the expense without affording any compensating advantages.

On the other hand, the section on Embryology is sufficiently complete for the requirements of the obstetrical student. It is written in a clear, readable style, and the formation of the amnion is illustrated by coloured diagrams which are understood with considerable ease. The subject of contracted pelvis receives but scant notice, nor is the author's treatment for these complications either sufficiently precise or above criticism. This portion of the work is rendered valuable, however, by a description of Walcher's position in difficult delivery. It is but little understood as

yet, and the author does well to call attention to its merits.

Dr. Milne Murray's views are, for the most part, reproduced in the section dealing with forceps delivery. Too much importance is bestowed on the proper construction of the instrument and too little on the indications for its use. We cannot approve its application in those cases of contracted pelvis where the head does not fix in the brim without its aid.

It is in those very cases that much injury can be done to the soft parts by indiscriminate and nearly always premature efforts to deliver. We hold that it is the operator and not the forceps that should in chief part be taken account of.

It would be absurd did we endeavour in detail to notice the subjects treated of; sufficient to say that the work omits few that are of interest or, at all events, of common occurrence. In this respect it is unusually complete for its size.

The author can adduce eminent authority for almost everything that he has said, and though on many subjects we find ourselves in sharp contrast to him, yet still it cannot be denied that the work is a real contribution to the science of obstetrics, and as such we cordially welcome it.

Sterility. By ROBERT BELL, M.D., F.F.P.S.G. London: J. & A. Churchill. 1896. 8vo. Pp. 87.

WE really see nothing in this book to commend it to those anxious to become better acquainted with the ætiology and treatment of sterility. We have conscientiously read it through, and quite fail to note any one passage that would be likely to instruct those acquainted with the most elementary gynæcological works published in recent years.

Had the author confined himself to precise statements and ascertained facts—no matter how stale—we would not be concerned in adversely commenting on the work. His hopeless lack of precision, together with his utter disdain for proofs in support of his theories, is calculated to irritate those who read the book.

Dr. Bell, at the outstart, sets himself the task of demonstrating the falsity of the theory which he states "has frequently been assumed," namely, that the right ovary gives origin to male ova and is sterile as regards female. He has proved this to be false, and we can only hope that an ungrateful country will mark in a fitting manner its estimation of these important observations.

Anatomy, too, has occupied the author's attention, and he finds that the tubular formation of the uterus and the rigidity of its walls possess considerable powers of retaining that organ in its "erect position." "Displacements of the uterus are invariably dependent upon a flaccid condition of its walls," and again we read that if the uterine walls become pliable and lose their normal tone, flexion backwards will inevitably ensue.

It is a cause of much astonishment that views so little in accordance with ascertained facts should still find champions to persistently put them forward. Needless to say that there is abundant proof forthcoming to show that the normal uterus is a small flaccid organ, lying in a position of acute ante flexion, when resting on the emptied bladder; that the intestines lie on its posterior wall; that it rises and falls with the filling and emptying of the bladder, and that backward displacements can alone occur from impairment of the utero-sacral ligaments; finally, that a rigid uterus is an abnormal one.

The author is right in attributing sterility to endometritis, in a certain proportion of cases, but errs in assuming that in the majority of instances sterility is removed by the use of the curette.

Bald assertions, of which the following is an example, constantly occur throughout the book. I have "lost count of the number of cases of endometritis that have come under my observation and treatment, and I flatter myself that the results obtained will compare very favourably with those of Apostoli."

Finally, we have to note the curette designed and employed by Dr. Bell, as it appears to fulfil fewer of the conditions requisite for a safe and aseptic instrument than any other we have come across.

Our Baby. By MRS. LANGTON HEWER. Fourth Edition.
Bristol: John Wright & Co. 1896. Pp. 134.

WE can say, without any exaggeration, that this book should find a place in every household of young children. Those of us who have much to say to the healthful bringing up of children, cannot but be struck at the lamentable want of system and intelligence that obtains amongst mothers and nurses in this respect. How often do we see the cry of a dyspeptic infant interpreted as an indication for more food? How hopeless apparently it is to contend against the ignorance and prejudice of mothers and nurses (?), elderly ones being particularly intractable in this respect?

Women who meet one's every argument by the announcement that other children have been reared by them on such and such a system, totally ignoring the fact that it is to a powerful constitution and not to their system that these results must be attributed.

It is as a household instructor that the book before us commends itself, and the information it affords is full and for the most part accurate. Directions as to the bathing, clothing, and feeding of the infant are given. Also indications as to any departure from health. Short descriptions written in plain language are afforded as to the common

ailments of children. How to combat diarrhoea and constipation receive due notice. The merits of different foods are written of. The author, however, greatly damages her book by dabbling in medicines, of which she appears to know but little, and we cannot too strongly condemn the advice that tincture of aconite in drop doses may be given to a child of one year old.

The little work will be most valuable to those who read it with intelligence. For those, however, who undertake the treatment of diseases of which they possibly are as ignorant as the author herself, relying on the information contained in this manual, they were better off had they never seen it.

Summary of a Report by Dr. S. P. Impey, M.D., M.C., on his Tour through Europe and Egypt for the purpose of enquiring into certain Matters connected with Leprosy.
Printed by Order of Mr. Speaker. Cape Town, 1896.
Pp. 41.

DR. IMPEY—whose official position is not revealed in these pages—obtained leave of absence in the latter part of 1895, visited many leper hospitals, and consulted many experts, with the view of completing his study of leprosy. The points on which he sought for fuller information were: the contagiousness of leprosy, the spontaneous cure of anæsthetic leprosy, the danger of its spread, and “the possibility of curing tubercular leprosy, in its earlier stages, by means of acute inflammatory affections.” After consulting nearly forty specialists, in Scandinavia, Berlin, London, Lisbon, Seville, Rome, and Egypt—some of whom had had wide Eastern experience of leprosy—Dr. Impey arrived at the following conclusions:—“1. That leprosy is a contagious disease, and that it is spread by contagion only. 2. That anæsthetic leprosy is often spontaneously cured.

3. That the danger attached to the discharge from hospital of anæsthetic lepers, which danger is more theoretical than practical, is so infinitesimally small as to be unworthy of consideration. 4. That inflammatory affections have a beneficial effect on tubercular leprosy, and that there is a fair prospect of the treatment of this form of leprosy in its earlier stages by means of erysipelas being successful." On these conclusions he bases his recommendations that anæsthetic cases, in the Cape Colony, should be released from segregation, to which the Leprosy Repression Act condemns them.

The Profession of Medicine: its Study and Practice; its Duties and Rewards. By CHARLES WEST, M.D.; Fellow and late Senior Censor of the Royal College of Physicians; Founder of the Hospital for Sick Children; Foreign Associate of the National Academy of Medicine of Paris, &c. London: Kegan Paul, Trench, Trübner & Co., Ltd. 1896. Pp. 115.

WHEN a veteran

"Shoulders his crutch and shows how fields were won,"

the interest of the most apathetic is stirred. An honoured veteran is Dr. Charles West—who handles a pen instead of a crutch; and there are few of our profession, students or practitioners, who will not be benefited as well as interested by perusal of this little volume—the result of sixty-three years' experience of a successful physician's practice.

Reviewers are slanderously reported not always to read the works they review; this booklet we have read through, and recommend to all. To certain parts of it we desire to call particular attention. On page 31 will be found some kindly hints of the weaknesses of the modern nurse, which one will do well to note. On "The Duty of Professional Secrecy" (p. 36), Dr. West's remarks, which include informa-

tion upon the law on this subject in other countries, are most valuable, especially to the young practitioner. The history of the author's attempts—successful so long as he continued in charge—to check the gross abuse of the Out-patient Department of the Hospital for Sick Children, is instructive for these times. It will be found on pp. 83, 84.

The Magnet Magazine. Vol. V. No. 8. Wednesday, December 9, 1896. London: James Henderson, Red Lion House, Fleet-street, E.C.

THIS is a bright, sparkling, and, in conformity with its name, *attractive* periodical. It appears weekly and is many-sided, containing scientific articles, serial stories, and much interesting and amusing information on men and manners. Its contents are safe reading for young and old, and it is neatly and artistically illustrated.

The number before us opens with an interesting article on the horseless carriage, which is described as "the vehicle of the future." Under the heading "People Talked About," an account is given of General Weyler, Commander of the Spanish Forces in Cuba. "A Day with Garrick" will interest all lovers of the stage. There is also a good article on "Sports and Pastimes." The "*Magnet Magazine*" is a wonderful pennyworth.

Gaceta Médica de Costa Rica. Revista Nacional de Medicina Cirugía, Farmacia é Higiene. Director, DR. CESAR BORJA.

WE welcome this, the first number of the first medical journal published in Costa Rica.

Like other Spanish-American colonies, Costa Rica passed from under the yoke of the mother-country during the reign of the feeble Ferdinand the VII.—a monarch who, more than any other member of his family, illustrated the obstinacy and unwisdom of the Bourbon.

Long-suffering Guatemala tolerated Spanish tyranny until Ferdinand, instead of rewarding her loyalty to his crown, attempted to impose a heavy taxation to fill the coffers of the Madrid Ministry. The treatment stirred up the central American peoples, and, in 1821, the patriots declared Guatemala free.

Spain was content with fulminating an episcopal anathema. Her usual weapon produced its usual effects, and Central America, after a period of local troubles, settled down to the enjoyment of freedom.

In 1826 Costa Rica, the most southern of the States of the late Confederacy of Central America, commenced measures for her future civilisation. Free schools were opened, and roads made from the coast to the capital, San José. Railways are now made across country from the Atlantic to the Pacific coast. The country is rich in minerals, flocks, coffee, grain, rubber, and fruits. From the high table-lands of the interior to the coast line the country enjoys every variety of climate, and the temperature varies in accordance with the distance from the ocean shore, passing from 100° F. on the Pacific coast to 60° F. on the table-lands.

Don Rafael Iglesias, the present President, the year following his election, took steps to promote the study of medicine, and the constitutional order founding "the Faculty of Medicine and Surgery of the Republic" was published on the 29th of August, 1895. In accordance with the text of the order the Faculty of Medicine publishes the *Gaceta Médica*, for which there is a public grant of money.

From the opening article we learn that the journal will give special attention to the diseases most prevalent in the country, and that meteorology and hygiene will receive due attention.

This, the first number, is largely taken up with official notices and an article setting forth the views of the editor;

withal there are several interesting original communications, and an excerpt from "La Semine Medical." The original articles include one on hydrocephalus as a cause of difficult labour; one on milk impurities; chromic acid as a test for urine; formic aldehyde as a surgical antiseptic; the sophistication of wine; animal poisons, and an account of the existing epidemic of measles.

Our contemporary has commenced well, and we wish it every success in the mission it has set before it.

Catechism Series. Forensic Medicine. Edinburgh: E. & S. Livingstone.

THIS is a remarkable book: firstly, because it is anonymous. There are but few medical writers who are so modest, or who, at any rate, have so little pride in their work as not to print their names on the title-page of their books. Then, it contains almost as many pages of advertisements as of forensic medicine, 40 of the former and only 48 of the latter. It is written in Question-and-Answer style, and is occasionally amusing:—

"Q. 'What do you mean by the terms Impotency and Sterility?

A. 'Impotence in the male; sterility in the female.'

"Q. 'What effect has Madness upon Guilt?' A. 'Madness absolves from guilt in criminal cases.'

"Q. 'Can you define Insanity?' A. 'No.'

"Q. 'What is the action of Water upon Blood-stains?' A. 'They are readily dissolved, forming a reddish solution.'"

and so on.

Its price is 1s. net, but we think it dear at that sum.

PART III. MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—JOHNSON SYMINGTON, M.D.

Sectional Secretary—A. BIRMINGHAM, M.D.

Friday, May 22, 1896.

PROFESSOR PURSER in the Chair.

Exhibits.

PROFESSOR PURSER exhibited several microscopic specimens showing irregularities in the formation of the medullary tube in the developing chick, and several other macroscopic specimens showing errors of development in chicks, frogs, &c.

DR. A. F. DIXON showed a series of models prepared by the reconstruction method, to exhibit the development of the fifth nerve.

Genu Valgum Adolescentium.

In the unavoidable absence of the President, the Secretary read for him a communication on this subject, illustrated by a specimen, showing a condition of extreme malformation in both lower limbs. The patient, up to the age of eighteen, exhibited no signs of the deformity. At the age mentioned she went to work in a mill, and soon after the condition shown in the specimens arose. There were some signs of rickets in the upper limbs, but the

characteristic enlargements of the anterior end of the ribs were absent. The deformity was extreme, the two femurs crossing like the limbs of an X. On one side of the specimen the soft parts had been carefully dissected and preserved: owing to the deformity, all the structures at the back of the knee were shifted outwards, thus the popliteal artery lay over the outer margin of the external condyle. The sartorius and gracilis ran down over the intercondylar notch, and the tendon of the adductor magnus thus uncovered was subcutaneous. On the other side the soft parts had been removed, and coronal sections made through the lower end of the femur and the upper end of the tibia, also through the lower ends of both tibia and fibula. The upper two-thirds of the femur were quite normal. The sections showed that the lower end of the bone as well as the upper part of the tibia was the seat of rachitic disease, as indicated by the irregularity of the epiphyseal cartilage and the porous condition of the bones. The sections showed also distinctly that the marked deformity was due chiefly to the condition of the diaphyses of both femur and tibia, and to a slight extent to the unequal growth of the inner and outer parts of the epiphysis. There was comparatively little change at the ankle. The pelvis was unsymmetrically narrowed, the transverse axis being much reduced.

PROFESSOR PURSER said that judging merely by the naked-eye appearances, one half of the epiphyseal cartilage appeared rachitic, and the other half normal.

Ossification of the Third Trochanter.

DR. A. F. DIXON read a paper on the above subject. Three femora were exhibited showing a special epiphysis for the third trochanter. In each case this epiphysis is small and scale-like, and is placed just above the groove present in the region of insertion of the gluteus maximus muscle. An examination of a number of young bones leads to the conclusion that, in many cases at all events, the third trochanter in man is ossified from a special centre. The epiphysis was never found to be more than a scale-like piece of bone, even when the third trochanter was very well developed.

In lower animals, also, which possess a third trochanter, a

special centre seems to be usually present for its ossification. This is so in the horse, according to Franck, and the same is easily shown to be the case in the tapir and in certain rodents, such as the rabbit, and *Cœlogenys paca*.

In the rhinoceros, according to Owen, an extension of ossification takes place from the great into the third trochanter. It seems possible that even in this animal an examination of younger stages would show a centre both for the great and third trochanter, and that these unite to form a single epiphysis at a later stage. This suggestion is based on the observation that in *Cœlogenys* the centres for the great and third trochanter come into contact before they join the shaft of the femur.

PROFESSOR BIRMINGHAM said that Dr. Dixon's observations seemed to solve a question which was discussed some time ago by Professor Dwight and Dr. Arbuthnot Lane. The latter held that certain bony projections were produced by the pull of muscles on the bone. Among other instances he mentioned the drawing out of the gluteal ridge to form the third trochanter. Professor Dwight urged, on the other hand, that this third trochanter was a survival of the third trochanter of animals, and that it was not due to muscular pull. They only examined the bones apparently from the outside. Professor Birmingham made sections of the third trochanter and of the gluteal ridge. The third trochanter was exactly like the lesser trochanter. It consisted of a thin shell of compact tissue enclosing cancellous tissue within. The gluteal ridge was composed altogether of layers of compact bone. He came to the conclusion that Dwight's theory was correct. Dr. Dixon's observations proved this.

DR. DAVIDSON said that if it was a reversion, one would expect to find it more marked in the lower races.

DR. DIXON said, in reply, that Wiedersheim stated that it was more common in the higher than in the lower races. It did not occur as frequently in the anthropoid apes as in man.

Effects of Right-handedness on Sternum.

PROFESSOR BIRMINGHAM read a paper on this subject. [It will be found at page 31.]

PROF. PURSER was of opinion that right-handedness depended on the brain. The blood supply to the left brain was more direct, as was shown by the frequency of embolism on that side. In the lower classes no pains were taken to make them right-handed, still there were no more left-handed people among them than among the higher classes.

PROFESSOR BIRMINGHAM, in reply, referred to the various theories advanced to account for right-handedness. He thought none of them quite satisfactory. He agreed with Professor Purser that the cause lay in the brain.

CRYING THE EYES OUT.

THE *Journal American Medical Association* is responsible for the following:—"According to the veterinary missionary Drollartin, of India, it is not an uncommon thing to see Hindoo women, one or both of whose eyes have been lost through the manifestations of grief. On inquiring the cause of all this, the usual reply is that she has lost a child, and has cried till she may be said to have cried her eyes out. 'That is,' says he, 'probably what has actually occurred in many cases. It is always a son, sometimes a husband. I never heard of a woman crying seriously for the loss of a daughter. In one case, both eyes had been lost by way of variety, for a buffalo. Buffaloes are prized above cows for their milk, as they give more milk, and of richer quality, though with something of a tallowy taste. The female acquaintances of this woman waited upon her and advised her to weep, and offered to join with her in her efforts.' They came, both young and old, some with one eye, and some with the remains of two, and some with strabismus and scarrings, and baring their heads, proceeded to form a circle with their hostess in the centre. Then all, with one accord, continued to shriek piteously for the space of two hours, while they beat their thighs and temples alternately with both hands. This is the customary mode of public mourning, though usually practised only on the death of a husband or son."

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.;

Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, November 28, 1896.

THE deaths registered in each of the four weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Nov. 7.	Nov. 14.	Nov. 21.	Nov. 28.		Nov. 7.	Nov. 14.	Nov. 21.	Nov. 28.
Armagh -	7·0	14·0	14·0	7·0	Limerick -	16·8	18·2	22·5	19·6
Belfast -	25·2	23·3	25·4	24·3	Lisburn -	17·0	12·8	21·3	25·7
Cork -	24·2	24·2	25·6	23·5	Londonderry	25·1	22·0	17·3	17·3
Drogheda -	22·0	17·6	30·7	18·2	Lurgan -	13·7	22·8	4·6	4·6
Dublin -	25·1	26·5	28·6	31·0	Newry -	16·1	24·1	28·2	32·2
Dundalk -	20·9	8·4	8·4	25·1	Sligo -	5·1	25·4	40·6	15·2
Galway -	15·1	30·2	22·7	22·7	Waterford -	22·5	25·0	20·0	20·0
Kilkenny -	14·2	37·8	23·6	14·2	Wexford -	31·6	4·5	9·0	27·1

In the week ending Saturday, November 7, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 20·2), was equal to an average annual death-rate of 20·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·3 per 1,000. In Glasgow the rate was 22·1. In Edinburgh it was 15·0.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 23·6 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths, from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·9 per 1,000, the rates varying from 0·0 in seven of the districts to 8·8 in Drogheda—the 5 deaths from all causes registered in that district comprising 2 from measles. Among the 134 deaths from all causes registered in Belfast are 8 from measles, 4 from scarlatina, 2 from whooping-cough, 2 from diphtheria, 2 from enteric fever, and 4 from diarrhoea. Of the 35 deaths in Cork 1 was from enteric fever and 1 from diarrhoea. The 16 deaths in Londonderry comprise 2 from scarlatina and 1 from diphtheria. Two of the 4 deaths in Newry were from whooping-cough, and the 4 deaths in Lisburn comprise 1 from enteric fever and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 195—101 boys and 94 girls; and the registered deaths to 172—78 males and 94 females.

The deaths, which are equal to the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·7 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 25·1 per 1,000. During the first forty-five weeks of 1896 the death-rate averaged 24·0, and was 2·9 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 21, being 3 over the number for the preceding week, but 2 under the average for the forty-fifth week of the last ten years. The 21 deaths comprise 1 from chicken-pox, 5 from scarlet fever (scarlatina), 3 from whooping-cough, 7 from enteric fever, 2 from diarrhoea, and 1 from erysipelas.

The weekly number of cases of enteric fever admitted to hospital, which had risen from 17 in the week ended October 24, to 21 in the following week, fell to 15. Sixteen enteric fever patients were discharged, 2 died, and 115 remained under treatment on Saturday, being 3 under the number in hospital at the close of the preceding week.

Sixty-seven cases of scarlatina were admitted to hospital, against 45 in the preceding week and 40 in that ended October 24. Thirty

patients were discharged, 2 died, and 275 remained under treatment on Saturday, being 35 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had risen from 21 in the week ended October 24, to 30 in the following week, further rose to 43, or 8 over the average in the corresponding week of the last ten years. The 43 deaths comprise 29 from bronchitis, 10 from pneumonia, and 2 from croup.

In the week ending Saturday, November 14, the mortality in thirty-three large English towns, including London (in which the rate was 19·8), was equal to an average annual death-rate of 20·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·5 per 1,000. In Glasgow the rate was 24·6, and in Edinburgh it was 23·7.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·5 per 1,000, the rates varying from 0·0 in eight of the districts to 9·1 in Lurgan—the 5 deaths from all causes registered in that district comprising 2 from diarrhoea. Among the 124 deaths from all causes registered in Belfast are 3 from measles, 5 from scarlatina, 6 from whooping-cough, 2 from simple continued fever, 3 from enteric fever, and 2 from diarrhoea. The 14 deaths in Londonderry comprise 1 from scarlatina and 3 from diarrhoea.

In the Dublin Registration District the registered births amounted to 170—70 boys and 100 girls; and the registered deaths to 190—80 males and 110 females.

The deaths, which are 13 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·3 in every 1,000 of the population. Omitting the deaths (numbering 12) of persons admitted into public institutions from localities outside the district, the rate was 26·5 per 1,000. During the first forty-six weeks of 1896 the death-rate averaged 24·0, and was 2·9 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 19, being equal to the average for the corresponding week of the last ten years, and 2 under the number for the previous week. The 19 deaths comprise 5 from scarlet fever (*scarlatina*), 2 from influenza and its complications, 4 from whooping-cough, 1 from diphtheria, 2 from enteric fever, 1 from diarrhoea, and 1 from erysipelas.

Twenty cases of enteric fever were admitted to hospital, being 5 over the admissions in the preceding week, but 1 under the number for the week ended October 31. Nineteen enteric fever patients were discharged, and 116 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

There has been a further increase in the number of cases of *scarlatina* admitted to hospital, the admissions amounting to 88, against 67 in the preceding week, and 45 in that ended October 31. Fifty-four patients were discharged, 2 died, and 302 remained under treatment on Saturday, being 27 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 38, being equal to the average for the corresponding week of the last ten years, but 5 under the number for the previous week. The 38 deaths comprise 24 from bronchitis and 12 from pneumonia.

In the week ending Saturday, November 21, the mortality in thirty-three large English towns, including London (in which the rate was 19.9), was equal to an average annual death-rate of 21.3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21.1 per 1,000. In Glasgow the rate was 23.5, and in Edinburgh it was 18.4.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 25.5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.1 per 1000, the rates varying from 0.0 in eleven of the districts to 4.0 in Newry—the 7 deaths from all causes registered in that district comprising 1 from

whooping-cough. Among the 135 deaths from all causes registered in Belfast are 3 from measles, 3 from scarlatina, 1 from diphtheria, 4 from enteric fever, and 4 from diarrhoea. The 37 deaths in Cork comprise 1 from whooping-cough, 1 from enteric fever, and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 201—105 boys and 96 girls; and the registered deaths to 198—93 males and 105 females.

The deaths, which are 21 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·5 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 28·6 per 1,000. During the first forty-seven weeks of 1896 the death-rate averaged 24·2, and was 2·7 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-two deaths from zymotic diseases were registered, being 1 in excess of the average for the corresponding week of the last ten years, and 3 over the number for the previous week. They comprise 7 from scarlet fever (scarlatina), 1 from typhus, 2 from influenza and its complications, 3 from whooping-cough, 1 from ill-defined fever, 1 from enteric fever, 3 from diarrhoea, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital was 18, being 2 under the admissions in the preceding week, but 3 over the number for the week ended November 7. Thirty enteric fever patients were discharged, 2 died, and 102 remained under treatment on Saturday, being 14 under the number in hospital on that day week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 45 in the week ended October 31, to 67 in the following week and 83 in the week ended November 14, fell to 46. Thirty-nine patients were discharged, 6 died, and 303 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The hospital admissions included also 6 cases of typhus and 18 of measles. Six cases of the former and 26 of the latter disease

remained under treatment in hospital on Saturday. During the preceding week no cases of typhus and but 5 of measles had been received.

Deaths from diseases of the respiratory system, which had fallen from 43 for the week ended November 7, to 38 for the following week, rose to 55, or 17 over the average for the corresponding week of the last ten years. The 55 deaths comprise 31 from bronchitis and 18 from pneumonia.

In the week ending Saturday, November 28, the mortality in thirty-three large English towns, including London (in which the rate was 18·8), was equal to an average annual death-rate of 19·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·3 per 1,000. In Glasgow the rate was 21·6, and in Edinburgh it was 16·4.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·1 per 1,000, the rates varying from 0·0 in ten of the districts to 4·4 in Drogheda—the 3 deaths from all causes registered in that district comprising 1 from measles. Among the 129 deaths from all causes registered in Belfast are 4 from measles, 2 from scarlatina, 4 from whooping-cough, and 1 from enteric fever. The 34 deaths in Cork comprise 1 from typhus and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 216—104 boys and 112 girls; and the registered deaths to 212—102 males and 110 females.

The deaths, which are 30 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 31·6 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 31·0 per 1,000. During the forty-eight weeks of 1896, ending with Saturday, November 28, the death-rate averaged 24·3, and was 2·6 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-four deaths from zymotic diseases were registered, being 2 over the number for the preceding week and 3 in excess of the average for the forty-eighth week of the last ten years. They comprise 1 from measles, 5 from scarlet fever (scarlatina), 1 from influenza, 7 from whooping-cough, 2 from enteric fever, 1 (in the Richmond District Lunatic Asylum) from beri-beri, and 5 from diarrhoea.

The number of cases of enteric fever admitted to hospital was 11, being 7 under the admissions in the preceding week, and 9 under those in the week ended November 14. Twenty-two enteric fever patients were discharged, 1 died, and 90 remained under treatment on Saturday, being 12 under the number in hospital on that day week.

Fifty-four cases of scarlatina were admitted to hospital, being 8 over the admissions in the preceding week, but 29 under those in the week ended November 14. Thirty-nine patients were discharged, 1 died, and 317 remained under treatment on Saturday last, being 14 over the number in hospital at the close of the preceding week. In addition, 13 convalescent patients remained under treatment in Beneavin Convalescent Home, Glasnevin.

The number of cases of measles admitted to hospital was 13, being 5 under the admissions in the preceding week, but 8 over the number for the week ended November 14. Thirty-two cases of measles remained under treatment in hospital on Saturday. Several of these cases were not true measles, but rubella or epidemic rose-rash.

The hospital admissions for the week did not include any case of typhus, 6 cases of which disease had been admitted during the preceding week.

The deaths from diseases of the respiratory system amounted to 58, being 3 over the number for the preceding week, and 14 over the average for the forty-eighth week of the last ten years. They comprise 30 from bronchitis and 18 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W., for the Month of November, 1896.

Mean Height of Barometer, -	-	-	30·156 inches.
Maximal Height of Barometer (on 24th, at 9 p.m.), -	-	-	30·613 „
Minimal Height of Barometer (on 14th, at 2 30 p.m.), -	-	-	29·157 „
Mean Dry-bulb Temperature, -	-	-	42·3°.
Mean Wet-bulb Temperature, -	-	-	40·4°.
Mean Dew-point Temperature, -	-	-	38·1°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	-	-	·232 inch.
Mean Humidity, -	-	-	85·4 per cent.
Highest Temperature in Shade (on 22nd), -	-	-	54·0°.
Lowest Temperature in Shade (on 6th), -	-	-	26·2°.
Lowest Temperature on Grass (Radiation) (on 6th), -	-	-	23·1°.
Mean Amount of Cloud, -	-	-	54·7 per cent.
Rainfall (on 9 days), -	-	-	·664 inch.
Greatest Daily Rainfall (on 14th), -	-	-	·190 inch.
General Directions of Wind, -	-	-	W. and S.W.

Remarks.

A fine, quiet, rather cold month. The scanty rainfall in Dublin—only ·664 inch on 9 days—established a record for November. The barometer ruled high, and a large anticyclone embraced the British Islands, the North Sea and Central Europe, between the 21st and 30th. At first W. or S.W. winds, clouds, and warmth accompanied this system, but it moved northwards and the easterly winds of its southern face brought with them an unusually dry, cold, searching atmosphere, together with a clear sky.

In Dublin the arithmetical mean temperature (43·2°) was decidedly below the average (44·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 42·3°. In the thirty-one years ending with 1895, November was coldest in 1878 (M. T.=38·2°), and in 1870 (M. T.=42·2°), warmest in 1881 (M. T. = 50·3°).

The mean height of the barometer was 30·156 inches, or 0·296 inch above the corrected average value for November—namely, 29·860 inches. The mercury rose to 30·613 inches at 9 p.m. of the 24th, having fallen to 29·157 inches at 2·30 p.m. of the 14th. The observed range of atmospheric pressure was, therefore, 1·456 inches—that is, slightly less than an inch and a half.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 42·3°, or 1·5° below the value for October, and 12·1° below that for September, 1896. The arithmetical mean of the maximal and minimal readings was 43·2°, compared with a twenty-five years' average of 44·7°. On the 22nd the thermometer in the screen rose to 54·0°—wind, S.W.; on the 6th the temperature fell to 26·2°—wind, W. The minimum on the grass was 23·1°, also on the 6th.

The rainfall was only ·664 inch, distributed over 9 days—the rainfall and the rainy days were considerably below the average, a record being established. The average rainfall for November in the twenty-five years 1865–89, inclusive, was 2·452 inches, and the average number of rainy days was 17·0. In 1888, 6·459 inches fell on 26 days. On the other hand, the rainfall in 1889 was only ·929 inch on 9 days. In 1895, 3·582 inches fell on 21 days.

High winds were noted on 7 days, and attained the force of a gale on two occasions—the 15th and 28th. The atmosphere was more or less foggy in Dublin on the 4th, 5th, 6th, 9th, 16th, 17th, 22nd, and 24th.

Lunar halos were seen on the 13th and 19th; solar halos on the 4th and 9th.

During the week ended the 7th, cold but fine weather prevailed until Saturday, which was a dull, damp, rainy day. At the beginning of the period an anticyclone advanced over Scotland and Ireland from the Atlantic, while various areas of relatively low pressure were found over Scandinavia and Central Europe, having a general trend towards S.E. Northerly winds with fine, but at times cloudy, weather held in Ireland, while rain fell in the E. and S.E. of England. On Tuesday a rather deep depression (29·4 inches and less) travelled southwards across Central Europe from the Baltic. In its rear the weather became very cold owing to a

snow-covering in Scandinavia. A ridge of high pressure now developed over Ireland, England, and Germany, so that on Thursday morning the barometer read 30·63 inches at Berlin, 30·61 inches at York, and 30·58 inches at Loughborough, Liverpool, and Dublin. Calms, fogs, and very sharp night-frosts accompanied the high pressure. On Thursday night the screened thermometer sank to 23° at York, Loughborough and Parsonstown, 25° at Cambridge and 26° in Dublin. On Friday morning a vast depression was moving eastward across the North of Norway and spreading southwards at the same time. At 8 a.m. the barometer varied from 28·82 inches at Bodö in Norway to 30·52 at Berlin. Strong W. and S.W. winds accordingly set in, with clouds, rain, and a quickly rising temperature. Saturday was a very dull, damp day in Dublin, the change from the almost cloudless skies of the frost period being very marked. The mean height of the barometer was 30·194 inches, the range being from 30·582 inches at 9 a.m., of Thursday (wind, W.) to 29·775 inches at 2 p.m. of Saturday (wind, W.N.W.). The mean temperature was 39·1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 37·8°. On Friday the screened thermometers sank to 26·2°, on Saturday they rose to 50·5°. The prevalent winds were W.N.W. and W. Rain fell on two days to the amount of ·290 inch ·170 inch being registered on Saturday. A solar halo was seen on Wednesday.

The earlier part of the week ended Saturday the 14th was fine but cold, with moderate northerly to westerly winds. A complete reversal of the conditions of distribution of atmospheric pressure over Western Europe took place as the period advanced. At first the barometer stood high in Ireland, where the gradients were moderate for northerly winds. Between Monday and Thursday an anticyclone moved slowly south-eastward from this country to Central France, the fall of the barometer in the W. and N.W. substituting southerly for northerly winds in the British Islands. On Friday morning a large V-shaped depression extended from the Hebrides to the Land's End, and on Saturday a still more important and deeper system of low pressure passed across Ireland in a north-easterly direction, causing squally S. to W. winds and heavy rains or passing showers. Scandinavia, and the extreme North of

Europe generally, experienced very intense cold for the time of the year. This was due to the fact that a good deal of snow lay on the ground in those regions. At Haparanda, on the Gulf of Bothnia, the minimal temperatures were daily below zero, namely, -5° (?), -8° , -4° , -8° , -8° , -9° , and -11° respectively. At Karlstad in the south of Sweden the thermometer read $+5^{\circ}$ at 8 a.m. of Friday. In Dublin the mean-height of the barometer was 29.991 inches, pressure ranging from 30.414 inches at 9 a.m. of Monday (wind W.N.W.) to 29.157 inches at 2 30 p.m. of Saturday (wind S.W.). The mean temperature was 43.7° , or 4.6° above that of the previous week. The mean dry bulb reading at 9 a.m. and 9 p.m. was 48.0° . On Monday the screened thermometers fell to 29.9° , on Friday they rose to 52.8° . The rainfall was .221 inch on two days, .190 inch being measured on Saturday. The prevailing winds were first N.W., then S. to W.

Although changeable, the weather of the week ended Saturday, the 21st, was generally favourable, and no extremes were recorded. On Sunday cyclonic conditions prevailed. A depression in which the barometer read 29.20 inches or less lay off the Norfolk coast at 8 a.m., while another and deeper low pressure system (29.00 inches and less) was found over the N.W. of Scotland, travelling south-eastwards. N.W. to N. winds of considerable strength blew in Ireland, where also rain fell in the forenoon. By 8 a.m. of Monday the Scottish centre of low pressure had reached Normandy, and the barometer had risen in all parts of the British Isles, with improving weather. On Tuesday morning a tongue of relatively high atmospheric pressure stretched south-westward from the S. of Sweden to the S.E. of Ireland. Frost prevailed in Dublin, as well as fog. A complex depression quickly came in from the Atlantic as the day advanced, and rain fell at night, the thermometer rising to 52.8° in Dublin, with S.W. to W. winds. The remainder of the week was chiefly fine, but not settled. During Friday and Saturday an anticyclone spread over the British Islands from S.W., and temperature became high for the time of year with a good deal of cloud and but little rain. In Dublin the mean height of the barometer was 30.002 inches, pressure ranging between 29.338 inches at 9 a.m. of Sunday (wind, W. by N.), and 30.461 inches

at 9 p.m. of Saturday (wind, W.S.W.). The mean temperature was 41.5° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 43.7° . On Tuesday the screened thermometers sank to 32.0° , on Wednesday they rose to 52.8° . Rain fell on three days to the amount of .132 inch, .079 inch being registered on Tuesday. There was a moderate gale on Sunday. Some fog prevailed on Monday and Tuesday. A lunar corona was seen on Wednesday and a lunar halo on Thursday.

Anticyclonic weather was experienced throughout the greater part of the week ended Saturday, the 28th. A broad band of high atmospheric pressure stretched across Central Europe early in the period, and afterwards slowly drifted northwards in front of a succession of depressions which formed in the Mediterranean Basin and over the Peninsula. The distribution of pressure just described caused S.W. and W. winds and resultant high temperatures in Ireland, Scotland, and Scandinavia, E. and N.E. winds and much lower temperatures in Austria, Germany, France, and the S.E. and E. of England. On Sunday the thermometer in the screen rose to 54° in Dublin, 55° at Leith and Donaghadee, and 56° at Parsonstown, Aberdeen, and Nairn—even as far north as Christiansund in Norway (Lat. 63°) the maximum on this day was 54° . Slight rain fell at various points in the British Isles between Monday and Thursday, but the weather was generally dry although overcast, dull and misty or foggy. The ridge of high barometer gradually moved northward, so that easterly winds took the place of the westerly winds of the beginning, and the calms of the middle of the week. With the easterly winds came a considerable reduction of temperature to the Continent and the southern half of the United Kingdom. On Friday the anticyclone showed a remarkable lessening of its intensity. Its centre was then found over Scotland, where the barometer began to rise while it continued to fall over France and the Bay of Biscay. Steep gradients for easterly winds were in this way formed, so that the wind freshened to a gale from E. on Saturday with cold showers at exposed east coast stations. In Dublin the mean height of the barometer was 30.416 inches, pressure ranging from 30.613 inches at 9 p.m. of Tuesday (wind, S.S.E.) to 30.004 inches at 9 a.m. of Saturday (wind, E.N.E.).

The mean temperature was 46.4° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45.6° . On Sunday the screened thermometers rose to 54.0° , on Thursday they fell to 42.1° . Rain fell on two days to the amount of .021 inch, .012 inch being measured on Tuesday. The prevailing winds were W.S.W. and E.N.E.

The last two days were bright, cold, and very dry. Severe frost occurred in England on Monday, the 30th, when the thermometer read 20° in the screen at Loughborough at 8 a.m.

The rainfall in Dublin during the eleven months ending November 30th amounted to 22.716 inches on 174 days, compared with 15.378 inches on 141 days during the same period in 1887, 27.750 inches on 191 days in 1894, 27.298 inches on 167 days in 1895, and a twenty-five years' average of 25.292 inches on 177.4 days.

At Kneekdolian, Greystones, Co. Wicklow, the rainfall in November was .805 inch, distributed over 10 days. Of this quantity .300 inch fell on the 14th, and .260 inch fell on the 13th. From January 1st, 1896, up to November 30th, rain fell at that station on 147 days, and to the total amount of 28.642 inches. The corresponding figures for 1893 were 19.586 inches on 150 days, for 1894, 35.716 inches on 168 days, and for 1895, 31.715 inches on 151 days.

At Clonevin, Killiney, Co. Dublin, .58 inch of rain fell on 9 days, compared with a ten years' average of 2.737 inches on 17.6 days. The maximal fall in 24 hours was .23 inch on the 14th. Since January 1st, 1896, 26.31 inches of rain have fallen at this station on 159 days.

NEW CAUSE OF LEAD POISONING.

At a meeting of the Paris *Société de Biologie*, M. Charcot described a case of saturnine poisoning in a woman, 32 years of age, whose employment was the manufacture of artificial flowers. It was her business to roll green silk paper round the flower-stalks. During the process she had frequently to moisten her fingertips with her tongue. The paper was found to contain salts of lead in considerable quantity.

PERISCOPE.

DISINFECTION OF APARTMENTS.

IN some recent experiments by the health department of one of the largest American cities, where it might be supposed disinfection had been reduced to a science, it was found that cultures of the potato bacillus, *B. mesenterica*, exposed in apartments undergoing sulphur dioxide fumigation, were growing vigorously when returned to the laboratory. Dr. Miguel has made a series of experiments on this subject, the reports of which are published in *Les Annales de Micrographie*, and from which it appears that the commonly used disinfectants, such as phenol, thymol, sulphurous acid and naphtholene, are either ineffectual or very expensive. Carbolic acid, for instance, is about as active as alcohol or brandy, and less so than vinegar. The vapours of acetic acid are very active, but too expensive for ordinary use. Essential oils appear to be about as active as phenol. Concentrated aldehyde, in 1 to 2 per cent. solutions, should be used, exposed in shallow dishes and allowed to disengage their vapour slowly for several days. Another plan recommended is to burn methyl alcohol slowly in lamps surrounded with platinum gauze. Very penetrating vapours of aldehyde are disengaged, which do not alter metals or the colours of textile fabrics, while acting efficiently as a disinfectant.—*Jour. Am. Med. Assoc.*

FOOD OF SCHOOLBOYS.

A PAPER was read last year before the Medical Officers of Schools Association, on "Meals and Food for the Schoolboy," by Dr. Horace Savory, the resident medical officer of Haileybury College. The Association ordered it to be printed, and we have been favoured with a copy. It is a practical paper, with elaborate diet-tables. We do not quite see the necessity of eating "before lessons commence." "Boys have told me they don't care for food at this time, they don't feel hungry; others say it spoils their breakfast; and the

meal is partaken of by a few small boys only." Quite so; but Dr. Savory insists. Our own views on the subject of school dietetics are revolutionary; or perhaps we should say reactionary. Never mind grains of albuminates and fats. Give healthy boys as much plain food—bread and milk, and good meat, with vegetables or fruit, once a day—as they are disposed to eat. Honest unskimmed milk is better for them than sloppy tea, or coffee, or even cocoa. Good water is a better dinner drink than washy beer. Discourage "grub-shops," and the home hamper. Translate the motto on the pamphlet *Maxima debetur ventri reverentia* (which probably would surprise Juvenal) "Plain food and plenty of it."

ANTITOXIN IN THE TREATMENT OF DIPHTHERIA.

THE American Pediatric Society have carried out a collective investigation into the use of Antitoxin in the treatment of Diphtheria in private practice. Reports were returned from 615 physicians with 3,628 cases. In about two-thirds the diagnosis was confirmed by culture, and in some other cases no doubt as to diagnosis existed. In all there were 3,384 certain cases, and these alone were analysed.

The following is a summary of the report:—

1. The report includes returns from 615 physicians. Of this number more than 600 have pronounced themselves as strongly in favour of the serum treatment, the great majority being enthusiastic in its advocacy.

2. The cases included have been drawn from localities widely separated from each other, so that any peculiarity of local conditions to which might be ascribed the favourable reports must be excluded.

3. The report includes the record of every case returned except those in which the evidence of diphtheria was clearly questionable. It will be noted that doubtful cases which recovered have been excluded, while doubtful cases which were fatal have been included.

4. No new cases of sudden death immediately after injection have been returned.

5. The number of cases injected reasonably early in which the

serum appeared not to influence the progress of the disease was but 19, these being made up of 9 cases of somewhat doubtful diagnosis; 4 cases of diphtheria complicating measles, and 3 malignant cases in which the progress was so rapid that the cases had passed beyond any reasonable prospect of recovery before the serum was used. In two of these the serum was of uncertain strength and of doubtful value.

6. The number of cases in which the patients appeared to have been made worse by serum were three, and among these there is only one new case in which the result may fairly be attributed to the injection.

7. The general mortality in the 5794 cases reported was 12.3 per cent.; excluding the cases moribund at the time of injection or dying within twenty-four hours, it was 8.8 per cent.

8. The most striking improvement was seen in the cases injected during the first three days. Of 4120 such cases the mortality was 7.3 per cent.; excluding cases moribund at the time of injection or dying within twenty-four hours, it was 4.8 per cent.

9. The mortality of 1448 cases injected on or after the fourth day was 27 per cent.

10. The most convincing argument, and to the minds of the committee an absolutely unanswerable one, in favour of serumtherapy is found in the results obtained in the 1256 laryngeal cases (membranous croup). In one-half of these recovery took place without operation, in a large proportion of which the symptoms of stenosis were severe. Of the 533 cases in which intubation was performed the mortality was 25.9 per cent., or less than half as great as has ever been reported by any other method of treatment.

11. The proportion of cases of broncho-pneumonia—5.9 per cent.—is very small and in striking contrast to results published from hospital sources.

12. As against the two or three instances in which the serum is believed to have acted unfavourably upon the heart might be cited a large number in which there was a distinct improvement in the heart's action after the serum was injected.

13. There is very little, if any, evidence to show that nephritis

was caused in any case by the injection of serum. The number of cases of genuine nephritis is remarkably small, the deaths from that source numbering but fifteen.

14. The effect of the serum on the nervous system is less marked than upon any other part of the body; paralytic sequelæ being recorded in 9·7 per cent. of the cases, the reports going to show that the protection afforded by the serum is not great unless injections are made very early.—*Medical News*, New York, July 4th, 1896.

COLD BATHS IN ENTERIC FEVER.

At the August meeting of the Canadian Medical Association, (reported in the *Canadian Practitioner*), Dr. W. Osler gave the results of five years' experience of the use of the cold bath in enteric fever. "He stated that he had not followed Brandt's method to the letter of giving the plunge bath to all cases. In markedly asthenic cases, in very mild cases, and in those with serious complications, the bath was not used. These constituted 58 cases out of a total of 356. In the 298 bathed cases the death-rate was 6·3 per cent.; in the other cases 10·2 per cent. Of course it was not to be forgotten, in considering these statistics, that hospitals were given the worst cases. In the bathed cases no other treatment was employed except where there was cardiac weakness, when strychnia and alcohol were administered."

SYMPHYSEOTOMY IN THE UNITED STATES.

THE *Occidental Medical Times* quotes the following from the *American Gynecological and Obstetrical Journal*:—Robert P. Harris has collected all the cases in which symphyseotomy has been performed in the United States, and finds there have been 74 operations up to May 1, 1895. Of these 74 women 10 died, and of the children 18 were lost. It was found that Cæsarean section is less fatal to children, but far more fatal to mothers. The danger to the mother in symphyseotomy does not lie so much in the pubic section as in injuries produced upon the urethra, vagina, and uterus, in the forcible delivery of the fœtus by the forceps, and the forcing open of the symphysis by the passage of the head under traction. Harris says that in Vienna the capa-

bilities of the forceps for doing injury have been demonstrated to such a degree as to have reacted against symphyseotomy, in favour of Cesarean section. The general mortality of symphyseotomy in all countries, taken collectively, is 34 in 303, or over 11 per cent. In the United States so far it is 10 in 74, or 13.5 per cent.

MEDICAL STUDENTS IN ITALY.

THERE were 19,048 medical students registered in Italy in 1894-95. The number of universities is twenty-one, and the number of students registered at the various universities varies from 3,697 at Naples to 87 at Milan. The percentage of medical students to the population is about 61 per 100,000 inhabitants. In France it is 57 per 100,000, and in Germany 63 per 100,000. In Italy, university education is chiefly supported by the State, the students paying only a yearly tax of 200 or 300 francs. According to the latest statistics, after subtracting the tax paid by the students, each student cost annually to the State a sum which varies from a minimum of 215 francs at the University of Naples to a maximum of 1,408 francs at the University of Siena. It appears from the returns that the larger the number of students at a university, the smaller the annual expenses for their education.—*Med. Rec.*

POSTURE IN SLEEP.

THE natural attitude adopted by young children when free to do as they please with their bodies and limbs is interesting. Puppies and kittens lie curled up during sleep just as they did before they were born. In nine cases out of ten, young children when old enough to control their limbs and unfettered by clothing or cover, draw up their legs and bend their heads over in their arms. Of course the trouble is in too many cases that our children are not allowed to sleep according to their natural inclinations, and mothers and nurses interfere with the position most convenient for them. But if you observe how babies sleep in warm climates, where they are not bothered with much clothing, you will find them sleeping in the natural position. Whether they sleep on mats

of grass, on the warm earth, or in hammocks, the children lie in the curled-up position. After a while boys and girls of four or five years of age slightly change their attitude during sleep. They now lie on the side, face also on the side, and with the legs drawn up, using one of the arms as a pillow. This is the position assumed by the higher orders of monkeys in their sleep. It is not until boys and girls grow up that they stretch out their limbs full length in sleep. The lower orders of monkeys sleep in the crouching position, with the head bent down upon the knee. There is one position during sleep that is peculiar to human beings. It is lying flat upon the back. No animal of its own choice takes such a position in sleep. One of the keepers at Central Park who has excellent opportunities for watching the animals there says that he has never found the apes sleeping upon their backs. We all know the usual disagreeable results of sleeping on the back. A person in sleep will often roll over flat, whereupon he or she sees strange sights and hears odd noises. Many a time I have seen mothers and nurses go to the child on its back, muttering or crying in sleep, and then gently turn the dreamer over on the side. The right side is preferred by many people, while some find the left side comfortable.—*Med. Rec.*

CYST OF URACHUS.

DR. NEWMAN describes (*Glasgow Medical Journal*, July, 1896) a cyst of the urinary bladder, probably arising from the urachus; it extended from the apex of the bladder to the umbilicus.

BRADYCARDIA.

At a meeting of the Ontario Medical Association—we quote from *The Canadian Practitioner*—Dr. Dewar, of Essex, presented two patients, in the first of whom the pulse had been down to 22 for a considerable length of time—falling even to 16, and unaffected by exercise. For two years the patient, a man of 63, had suffered from indigestion and general debility with epileptoid seizures. The pulse of the second case was 25 to the minute. He gave a history of *petit mal*, but otherwise enjoyed fair health.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Tabloids of Cascara and Belladonna.

Messrs. BURROUGHS, WELLCOME & Co., Snow Hill Buildings, London, E.C., have added to their already long list of "Tabloids" what seems to us a very useful and appropriate combination in cases of habitual constipation. These "tabloids" are prepared according to the following formula:—Cascara sagrada extract, 2 grs.; nux vomica extract, $\frac{1}{4}$ gr.; belladonna, $\frac{1}{3}$ gr.; powdered capsicum, $\frac{1}{2}$ gr. This combination, containing intestinal stimulant, tonic and laxative ingredients, is suggested for use in the habitual constipation of delicate persons with feeble digestive organs. It is well known that cascara sagrada is unsuited for use as an occasional purge, but gives the best results when administered systematically. The dose of the combination before us should begin with one "tabloid" after food, once daily, and be increased, if necessary, until two "tabloids" are taken thrice daily. This dose should be maintained until the habit of regular action is established, when the number should be gradually reduced and at length discontinued. Cascara sagrada and belladonna "tabloids" being sugar-coated and elegant in appearance, are taken readily by the most fastidious. They are issued in bottles containing 25 and 100.

Residuum Rubrum "Tabloids." (B. W. & Co.)

THESE "tabloids," prepared from the carefully-dried red residue of venous or arterial blood, have been under trial for some time in the treatment of osteo-arthritis and other diseases, in which there is an absence in the patient's blood of the normal secretions of the various ductless glands. In a recent paper on "Blood as a Therapeutic Agent," a physician to the Liverpool Stanley Hospital reports the beneficial results of his trials of this drug in a series of cases of osteo-arthritis treated during a period of more than eighteen months. After the usual treatment had proved ineffectual, residuum rubrum "tabloids," prepared from venous blood, were administered in several cases with beneficial effect. They were given in doses of twelve 5-grain "tabloids" taken during the twenty-four hours.

The "tabloids" made from the residue of arterial blood are also undergoing careful clinical trial. Both varieties are supplied by Messrs. Burroughs & Wellcome in bottles containing 100 "tabloids."

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

FEBRUARY 1, 1897.

PART I.

ORIGINAL COMMUNICATIONS.

ART. VI.—*A Case of Enteric Fever, with Jaundice and Hæmaturia; Death on Sixth day; no Intestinal Lesions, but Enlarged Mesenteric Glands and Spleen; Typhoid Bacilli found in the Spleen.** By WALLACE BEATTY, M.D. Univ. Dubl.; Fellow and Vice-President, R.C.P.I.; Physician to the Adelaide Hospital, Dublin.

CASE I.—Richard P., aged thirty-four, was admitted into the Adelaide Hospital on May 30, 1896. The history of his case was taken for me by Mr. Brownrigg. Up to May 26th the patient was in his usual health and spirits. On the morning of that day he went out to work at 8 30 a.m., but had to return home at 11 a.m. on account of sickness of stomach and pain in the back. He went to bed; did not eat anything all day; complained of thirst; drank a good deal of water, and took some stimulants. Bowels were moved, and urine was passed freely. There was no vomiting. He slept well the following night. On the next day, May 27th, he felt worse. His face was noticed to have a yellow tinge. He passed urine frequently, which was very dark in colour. He was still thirsty, and complained of pain in the back and abdomen. He slept badly during the night. On May 28th he was more jaundiced, appeared heavy, and was very thirsty. Pain in the abdomen and back was present during the day. Bowels were moved and dark-coloured urine passed frequently. He slept badly.

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland on Friday, December 18, 1896. [For the discussion on this paper, see p. 165.]

May 29th.—He was still more deeply jaundiced; had pain as before; was very thirsty; complained of soreness of throat and had a slight cough; slept badly; sat up on the side of the bed occasionally during the night. May 30th.—At 6 30 a.m. he became unconscious; lips became blue. He vomited some green matter. During the attack there was no complaint of headache. On admission to the hospital the patient was in an unconscious state. He did not appear to be aware of anything that was going on. The pulse was weak. The skin was jaundiced. Urine was very dark in colour, and contained much blood and casts. His temperature was 102.2° at the time of his admission. The knee reflexes were absent. Cutaneous plantar reflex was present. The patient resisted passive movements of arms and hands. He remained unconscious and died on the next day, May 31st, the sixth day of his illness.

The *post-mortem* examination was made by Prof. Alfred Scott. The heart was large—weighed 14 ounces. The lungs were normal; there were a few pleuritic adhesions on left side. In the abdomen were some old peritoneal adhesions. Round the liver were firm adhesions. The liver weighed 60 ounces; looked normal. No sign of obstruction in bile ducts. The kidneys were congested. The mesenteric glands were enlarged. The intestines were normal. Peyer's patches and the solitary glands were unaffected. The spleen was enlarged, soft, and friable, and weighed 15 ounces; there were old peritonitic adhesions round it. The gall-bladder was small and empty.

Professor Alfred Scott and Surgeon-Captain Fullerton cultivated typhoid bacilli from the spleen.

Such is the history of this remarkable case. To summarise it: Patient was well on the morning of the 26th May. In the forenoon of that day he became ill; pain in back and nausea. The next day he was jaundiced; the next day more jaundiced. On the morning of the 30th May he became unconscious. He was deeply jaundiced, and urine was bloody. On the 31st May, the sixth day of his illness, he died. The *post-mortem* examination revealed a large spleen and enlarged mesenteric glands. There was no involvement of the intestine, and no sign of obstruction in the bile ducts to account for the jaundice. Bacteriological examination revealed typhoid bacilli in the spleen.

Side by side with the above case I place the following one,

in which the diagnosis of enteric fever was arrived at from the symptoms and the *post-mortem* examination; though, as a bacteriological examination was not made, absolute certainty is wanting:—

CASE II.—Henry G., aged nineteen, was admitted into the Adelaide Hospital on September 30, 1896. He had a discharge from the left ear for five or six years, and had suffered from time to time pain in the ear.

On September 23rd he was attacked with pain at the left side of his head, and on the following night he had several rigors. There was no diarrhoea. The headache continued.

On September 30th, day of admission, he complained of giddiness and pain in the head, chiefly at the left side, and in his left ear. The tongue was dry and coated. The abdomen was rather retracted. He had some discharge from his left ear, and there was marked tenderness over the mastoid process.

In a day or so the pain in the ear lessened, and on October 6 it was noted that the discharge from the ear had ceased, and the tenderness over the mastoid was less. He had rigors. The pulse varied in frequency from 110 to 120. The urine was free from albumen. The temperature varied from 102° to 104° .

Between October 6th and October 10th he had several rigors; during the rigors the temperature rose to 104° or 105° ; a pleuritic friction sound was audible at the right side. There was some pain in the side on inspiration. He also complained of pain in ear. His pulse increased in frequency for several hours before death; his heart was evidently failing; he became unconscious and remained so for 12 hours before he died.

The *post-mortem* examination was made by Professor Alfred Scott. The heart and pericardium were normal. There was a considerable amount of serous fluid and lymph in the right pleural cavity; this must have accumulated a few hours before death, as there was no percussion alteration a couple of days before. The bronchial tubes of the right side contained some mucus and pus, and through the lung were some small irregularly-shaped cavities lined with consistent white membrane and filled with chocolate-coloured fluid. The mesenteric glands were enlarged; the spleen was large and soft; the intestines were normal; the brain was carefully examined and found quite healthy.

During the patient's illness I considered that there were three possibilities—1. Cerebral abscess, in connection with the ear trouble. 2. Tubercular meningitis. 3. Enteric fever.

The history of discharge from the left ear, the pain complained of for some days in the ear, and the frequent shiverings suggested abscess, but there was no irritative or paralytic localising phenomena, and the complaint of pain in the right ear shortly before death was against a left-sided lesion. In favour of tuberculosis were the headache and fever, while in favour of enteric were the early headache and the course of the fever; but as there were no paralytic symptoms such as occur before death in tubercular meningitis, on the one hand, and no diarrhoea or spots, or characteristically swollen abdomen, such as one would expect in typhoid fever, on the other, a positive diagnosis could not be made.

The result of the *post-mortem* examination showed that the only solution of his fatal illness was a blood poison, and from the enlarged mesenteric glands and spleen (such as occurred in my first case), I think we may strongly suspect the typhoid bacillus. The absence of abdominal distension is accounted for by the absence of intestinal lesions.

It is quite clear that without a bacteriological examination the diagnosis of enteric fever without intestinal lesions is impossible. One cannot therefore wonder that Murchison, in his truly magnificent work on Continued Fevers, should make the dogmatic statement that the specific lesions are invariably present. Every physician of experience has met with fatal cases of enteric fever in which surprisingly little intestinal ulceration has been found, and it is quite easy to conceive that if the typhoid poison can cause death by its action on the heart with only a few specific intestinal lesions present, it may also bring about death without producing intestinal lesions at all. That such an event may occur my first case proves. Dr. John William Moore, in his book on Eruptive and Continued Fevers, discusses the question which was raised some years ago by the late Dr. Hilton Fagge, as to whether there may not be some cases of enteric fever in which no glands suffer at all, and he is disposed to answer this question in the affirmative. He relates a case brought by Dr. Vaillard before the Société des Hôpitaux de Paris, March, 1890:—"A soldier, after an attack of influenza, became very ill, suffering from stiffness in the neck, head-

ache, coma, constipation; temperature 104° F. Death on the 10th day. At the autopsy were discovered hyperæmia of the meninges and lungs, and enlargement of the spleen, while the intestines were perfectly healthy. Cultivation experiments showed the presence of an organism, which appeared to be the bacillus of typhoid, in the spleen, lungs, and medulla. A streptococcus was also present. Dr. Moore also relates a case of what he believed to be spleno-typhoid, which occurred in his own practice in 1880. There was no involvement of the solitary or agminated glands, but the spleen was large, soft, and friable. He alludes to three other cases—one reported by Dr. Chantemesse at the meeting at which Vaillard described his case, and two reported by Dr. Sidney Phillips before the Clinical Society of London in 1891.

Both my cases died with symptoms of cardiac failure. Indeed, what experience I have had of enteric fever has led me to conclude that when the heart shows signs of failing in enteric fever, and when one cannot account for this by any accident, such as a severe intestinal hæmorrhage, the prognosis is extremely bad—indeed almost invariably fatal.

ART. VII.—*A Clinical Note on Desquamation in Enteric Fever.** By NINIAN FALKNER, M.B. Univ. Dubl.; F.R.C.P.I.

ON the 17th of June, 1896, I was asked by a lady to come and see her daughter N., a little girl about eleven years of age. I did not take long to make up my mind that she was suffering from enteric fever, and placed the day of my visit at the fifth day from the attack. I will not trouble you with the ordinary details of the case, the chart of which you can examine.

The temperature became normal on the fifteenth day of the disease, much to my gratification, as I had held out the hope of a fourteen-day fever, and it remained normal until the eighth day, when it rose again to 100° in the evening, and a relapse of eight days ensued. The temperature became

* Read before the Section of Medicine in the Royal Academy of Medicine in Ireland, on Friday, December 18, 1896. [For the discussion on this paper, see p. 165.]

finally normal on the thirty-first day of the disease, and the child advanced rapidly towards normal health.

On visiting the child one day during the relapse I noticed a branny desquamation on the face, my attention being called to it by the mother of the child, and although I had not seen desquamation following enteric fever before, I remembered that in book research I had read of it, and proceeded to reassure the mother, by saying that it did occur sometimes. I may add that I did not myself feel at the time in the least degree anxious on the subject.

This observation was made towards the end of the fever. I was not visiting much then, but five days after I met a little sister of the patient, who told me that her mother said the skin was coming off the feet in flakes. I visited the patient and found her peeling all over, the condition is well described by the words of Nurse Farley, who attended the case in a most excellent fashion :—"I first noticed the peeling after the relapse, on about the twenty-fifth day of fever. The peeling commenced on the chest and arms; then the face, legs, and feet—the feet were the worst, as the other parts were only scaly. It lasted for three weeks, until she was able to be up."

I got some of the scales, which were about the size of segments of a tape-worm, from the soles of the feet and toes, thinking that the science of bacteriology, which now over-rides clinical medicine, might throw some light upon it, but I was not encouraged by the bacteriologists.

On the 19th of August I received a telegram from the same house, and on going out found baby aged about two years suffering from mild scarlatina. The parents would not believe me, and I only succeeded in carrying out isolation for three weeks. The peeling from this case was almost imperceptible and branny.

On the 13th September, the only holiday I had taken for thirteen months, I was again sent for. Being away that evening, another doctor arrived, who attended my first patient through a regular attack of scarlatina.

Dr. J. W. Moore, in his book on the "Eruptive and Continued Fevers," says—"Desquamation occurs in fine branny scales; the skin feels rough and perhaps dry; while

DATE	JUNE 13	14	15	16	17	12	13	14	15	16	17	18	19	20	21	22	23	24
DAY OF DISEASE	1	2	3	4	5	30	31	32	33	34	35	36	37	38	39	40	41	42
TEMPERATURE - FAHRENHEIT SCALE	102°	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M
	101°																	
	100°																	
	99°																	
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PULSE	120																	
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	160																	
	150																	
	140																	
	130																	
	120																	
	110																	
	100																	
	90																	

Epistaxis

Slight dizziness left base

Sitting up first time 1 1/2 hours

Cough and sputum

128

36

80

78

74

72

80

70

72

72

74

70

74

70

74

70

74

82

76

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the process is taking place the hair often falls out and atrophic markings appear on the nails."

Murchison, in his classical work on the "Continued Fevers of Great Britain, observes—"Desquamation of the cuticle on the cessation of the fever is chiefly observed in cases where sudamina have been present, but in many other cases the skin during convalescence is rough from the separation of the cuticle in minute branny scales. The hair often falls out, and the nails may present markings similar to those which follow an attack of typhus."

Dr. Clifford Allbutt says—"Desquamation in fine branny scales is often observed towards the end of the fever, or during convalescence."

Weill, among 35 cases of enteric in infants noticed desquamation of the skin in 27. This desquamation involved the trunk, the limbs, the neck; but neither the face, nor the palms of the hand, nor the soles of the feet. The desquamation was sometimes mixed—furfuraceous upon the trunk, and in strips upon the limbs. It sometimes occurred at the end of the febrile period, sometimes after the decline of the fever, and sometimes late in convalescence. The author regards it as due to a nutritive disturbance of the skin. It was not preceded by erythema, and baths had no effect to prevent it.

ART. VIII.—*Clinical Pictures of Children's Diseases.* By LANGFORD SYMES, M.R.C.P., &c.; late Clinical Assistant and Deputy Medical Registrar and Pathologist, Hospital for Sick Children, Great Ormond-street, London.

I. FRIEDREICH'S DISEASE.

HAVING in another place sufficiently put before our various readers the many needs of some careful and special study being given to the diseases of children amongst us, both in our schools, hospitals, and homes, I trust it will be a help towards this end if, endeavouring to draw what I may term some "clinical pictures" of these peculiar and interesting diseases from actual bedside or *post-mortem* experiences, I depict some examples of them as they will present themselves to the practitioner.

The diseases of children are immensely different in each and every feature from adult affections; so much so as to frequently pass recognition.

There is much to be seen at the bedside that cannot be found in any book.

This affection is one of very great interest. Likewise it is one of great peculiarity and obscurity, and from its importance in inevitably proving fatal, it is incumbent on one to record any instance of it. It is a slowly progressing ataxy, chiefly affecting children, and beginning in the legs. Friedreich, of Heidelberg, first exhibited instances of it in 1861 as "hereditary ataxy," and regarded it as locomotor ataxy in children. It was, however, definitely allocated to its proper position by M. Charcot in 1884. It is a peculiar variety of lateral sclerosis, a sclerosis affecting the lateral and posterior columns of the spinal cord. To distinguish it from "ataxic paraplegia," which also affects these tracts, it has been specially termed "hereditary ataxic paraplegia" from its very remarkable tendency to affect several children of the same family. Before its true nature was revealed it was termed by some "congenital chorea." Its symptoms, though usually characteristic, frequently vary, therefore there is some inconstancy in its clinical garb.

Of the actual cause of the disease, its true origin, we know nothing. Cases are sometimes isolated, though usually in a group. We cannot prove it is syphilitic. Sometimes the history is neurotic, sometimes not. It has often occurred after infectious disorders, and the following case came on after measles. These merely seem to hasten its appearance. It usually begins at the same age in each family. Our greatest authorities in neurology attribute it to the congenitally brief life of the particular nerve elements involved; they degenerate and die before their time; they are incapable of maintaining their function in accordance with the demands of growth and life. Pierre Marie, writing fluently in 1892, truly says—"As regards the nature of this disease I have been so far totally unable to form even an approximate opinion."

The other chief forms of lateral sclerosis may be embraced in the following classification:—

I. *Primary*—

1. True lateral sclerosis.
2. Amyotrophic lateral sclerosis.
3. Ataxic paraplegia.
4. Hereditary ataxy of Friedreich.

II. *Secondary*—

Secondary to hemiplegia (one side).
 Infantile spastic paraplegia (both sides).

III. *Hysterical*.

Of these, the secondary and hysterical varieties I have also seen in children.

Selecting six chief symptoms of this hereditary ataxy of children, perhaps those most prominent would be:—

1. Ataxy.—A staggering gait. Reeling as if drunk. Unsteadiness. Walking with a wide base, and aggravated by closing the eyes.
2. Loss of "knee jerks."
3. Nystagmus or erroneous projection.
4. Tremor and jerky unsteadiness of the head, neck, and arms.
5. Lateral curvature of spine.
6. Speech—slow, hesitating, drawing, thick or indistinct.

Then the clear mind, perfect senses, normal sensation, pes cavus, head bent forward, weakness of certain muscles, choreiform movements or vertigo, complete the picture; while we have, as a rule:—

No anæsthesia or analgesia.

No optic neuritis.

No ocular paralysis.

No Argyll-Robertson pupil.

No trophic changes.

No pains or crises.

No affection of sphincters.

The following case recently came under my notice, and from it I took these particulars:—

History.—E. C. was one of four children, and aged nine and a half years. Four years ago he was perfectly well when he got German measles, which left him with staggering and trembling. Has been strong and well in general health, and never kept in bed at home. Sight affected since eighteen months ago, as if he cannot

look directly at anything. No school for the last eighteen months, but was two years attending before. No vomiting, no fits, no headaches. Walks as if he was drunk. Used to fall, but not so frequently now. He runs steadier than he walks. Bowels regular. It came on gradually after German measles.

He was a full term child, of a normal labour. Never had thrush, rashes, or "snuffles." Was fed on the breast for eighteen months (nothing else). He had measles at one and a half years, German measles at five and a half, whooping-cough at six, and varicella, and was "subject to croup since infancy," less so now.

The mother was married fourteen years; had four children altogether; the others are alive and well; no history of phthisis, and no miscarriages.

Father is a painter, in work; no history of phthisis, or no neuroses in family, but is "a nervous man."

The hygienic conditions were good. House had seven rooms. There were fields near the house with open ground and no bad drains.

On examination he was a boy of fair nutrition, but with a striking and peculiar expression. His head was bent forward over his chest; he had a "foolish" expression, as if he were *trying hard* to look objects directly straight. When told to look you straight in the face he looks deliberately far away over your left shoulder. A pencil held up in front of my face he looks at and recognises, but eyes have their axes as before, very far to *his right* of the object. The eyes have a slight internal squint, but move in all planes. No definite nystagmus, but they are jerky in their movements. Sight is fairly good. Pupils react to light and also faintly to accommodation. The eyes constantly look to the right of any object fixed. The boy seems "bothered," and frowns when he fixes his eyes on anything.

There is no general tremor when sitting, but on standing up he gets a jerky ataxic tremor of his head. When he stands with eyes open he is unsteady, but this unsteadiness is markedly increased when he closes the eyes. He frowns and staggers, and cannot keep his equilibrium, tending to fall back, and to either right or left side, and would have actually fallen if not caught.

His gait is peculiar; he has a very "bothered" look, and walks very unsteadily; he walks rather on the inner edge of his foot. No dragging of the feet. No stamping; does not fall. His legs have a wide base, with the knees together. On reaching the turning point the boy turns round, with this bothered expression on his face, and staggers on starting the return journey. The head

is bent "desperately" forwards, as if determined on doing his best. The eyes are fixed crookedly before him, and he staggers along the straight line back. The head looks down and to his right (occasionally to the left), but never directly in front of him. After walking he felt sick and had some retching and brought up mucus, but did not actually vomit.

He picks up pins clumsily with either hand, and there is more tremor in the left than in the right hand. He cannot thread a needle, and when attempting it the end of the cotton is quite three-fourths of an inch from the eye of the needle. When told to put a needle through a hole in the paper he succeeds after frequent attempts, but is more guided by his tactile sensation than by his visual ones. He misses his nose when told to touch it with his finger.

When he holds the hands out there is some coarse tremor in the upper limbs, rather more marked on the left side. It is not appreciably increased on using the limb.

When dressing himself he seems terribly bothered about it. He can button his clothes.

The *knee jerks* are not obtained on either side. There is no ankle clonus. He recognised a black pencil, a red and white match, a green leaf, a blue ball, pictures of a bird, a ship, a cat, a hat, and a horse.

He evidently sees much better with the left than with the right eye, the right being turned chiefly outwards when he is asked to identify any object.

An ophthalmoscopic examination was made:—

Left eye—Disc well seen, very pale, edges sharp, marked pigment crescent on temporal side, vessels present; nothing abnormal.

Right eye—Not well seen, disc not so white or so sharply defined, the vessels are smaller, and a vein curves round an artery running vertically downwards; above and outside the disc is seen a black streak (? old hæmorrhage).

Speech is rather slow; no stuttering; repeated his alphabet correctly; counts from one to ten, and can do simple sums.

There is some lateral curvature of the spine.

Pes cavus is well marked in the feet; the arch is high, with the toes drawn up, and this disappears on standing.

Several subsequent examinations confirmed the above notes.

In making a diagnosis of this disease one or two affections must be considered.

Cerebellar tumour resembles it most; but here there is

generally headache, vomiting, optic neuritis, rigidity, tetanic spasms, retraction or hydrocephalus.

Locomotor ataxy, on the other hand, will be known by the Argyll-Robertson pupil, pains, crises, and its not affecting children.

Then there is that rare condition, arrest of growth of the cerebellum or cerebellar atrophy, but this is scarcely ever met with, and may be almost discarded.

Functional or hysterical ataxy must also be recollected, as I have seen it simulate it closely.

Of the intimate pathology of this disease we really know nothing. It always terminates in death, and the child will die generally of some intercurrent disease, and not from the spinal affection.

The prognosis is therefore very bad. Recovery is absolutely unknown, and its course is essentially progressive.

The child is usually said to become unable to walk in from three to five years, and is then confined to bed or to his chair for perhaps fifteen or twenty years.

On *post-mortem* examination the cord, we are told, is found attenuated to three-fourths of its normal size, especially in the dorsal region; and microscopically there has been found sclerosis of the posterior columns (both those of Goll and Burdach), and also of the direct cerebellar tract in the lateral column.

The grey matter of the cord presents fewer nerve cells, and these cells are found atrophied.

Unfortunately the disease is at present absolutely incurable, and it has never been known to be arrested. The child, therefore, so afflicted can never recover.

ART. IX.—*Influenza as a Factor in the Increase of Insanity in Ireland.** By THOMAS SAMUEL M'CLAUGHRY, L.R.C.S.I., &c.; Assistant Medical Officer, Maryborough District Lunatic Asylum.

I HAVE contemplated writing this paper with the above title for some months past, having been prompted to do so from

* Read at a meeting of the Psychological Association of Great Britain and Ireland.

two causes : First, I have not yet seen any writers lay much stress on influenza as a cause of insanity, with the exception of Dr. Clouston, of Edinburgh; secondly, judging from the number of cases admitted to this asylum during the year 1894, the certified cause of their insanity being influenza, I thus concluded that, if there were even the same number admitted to other asylums in Ireland, this affection might justly be assigned as a cause for the increase of insanity. I therefore wrote to every Medical Superintendent in Ireland. The questions asked and answers received I shall deal with later on, but before doing so let us look back on this disease "influenza" from a retrospective point of view—a disease which is now recognised as parasitic and infectious, the same as other zymotic affections, but one which, I fear, has not been regarded in the same serious light as rubeola or variola. This should not be the case, if we are to judge by the sad havoc and awful mortality which have marked its track through all civilised countries.

That it is a disease which was known and spoken of many centuries ago there is no doubt. We find that it was known to some of the early writers as *Catarrhus e Contagio*, and in an interesting paper written by Dr. Thompson, which was read on the 15th of February, 1839, before the London Medical Society, he states that this disease was known and written on as far back as the 14th century, and that it was first mentioned by Hippocrates, but became more frequent at the beginning of the 14th century. He (Dr. Thompson), from his observations from ancient writers, believed that we were visited by this affection every ten years, but of late I fear it is like the poor—we have it always with us.

We find that in the year 1782 this disease swept over all Europe, devastating and causing dreadful mortality to mark its track. That, in the same year, it was regarded as most contagious is proved by statements from the "Transactions" of the College of Physicians in London, which gives a detailed account of the fleet which sailed from Spithead on May 2nd, 1782, under Admiral Kempenfelt, being attacked with the disease, and nearly all the men were prostrated; the whole squadron was then obliged to return to port. That the disease made its appearance with great suddenness there is

no doubt, if we are to believe some of the old writers, who state that in St. Petersburg alone, in the year 1782, there were 40,000 of the inhabitants attacked in one night.

To account for this disease we have numerous theories. Probably one of the first was that by M. Schönbein, of Basle, in the year 1851. He was also probably the first to demonstrate the existence of ozone in the air, he having chemically manufactured the gas, and personally inhaled it as an experiment. He experienced sensations simulating those felt in influenza. He at once came to the conclusion that influenza was caused by excess of ozone in the air due to atmospheric changes or electrical disturbance.

Another hypothesis advanced about the same time as the one just mentioned, but one I think much stronger in absurdity, is that at times the air is filled with minute substances endowed with vegetable or animal life, and those substances coming in contact with the mucous membrane of the air passages, &c., exercise poisonous influences on the system.

If we now pass on to the present-day writers, we find that the ætiology of this disease has for the past few years absorbed the attention of many eminent men, and according to the report of Drs. Parsons and Klein for the Local Government Board in 1893, there is now no doubt as to the existence of the *Bacillus influenzae*.

There is another point on which almost all physicians of the present age agree, and which is most interesting from a psychological point of view—viz., the great loss of volitional power and the terrible depression which follows, and if there be in the patient attacked any hereditary taint which predominates over all other causes as predisposing, this lowering and depressing affection must indeed act as a very potent exciting cause.

I shall now lay before you a statistical table compiled from all the asylums in Ireland except two, and shall then endeavour to analyse it:—

Name of Asylum	Number of cases admitted during year 1894, the cause of insanity being certified as due to influenza	Forms of Insanity manifested by such cases
Armagh - - -	None - - -	—
Ballinasloe - - -	One - - -	Melancholia
*Belfast - - -	Twenty-two -	All of a melancholic type
Castlebar - - -	None - - -	—
Clonmel - - -	None - - -	—
Cork - - -	Four - - -	Not stated
Downpatrick - - -	One - - -	?
Ennis - - -	None - - -	—
Enniscorthy - - -	None - - -	—
Kilkenny - - -	Three - - -	{ i. Senile dementia ii. Chronic mania iii. Acute melancholia
Killarney - - -	None - - -	—
Letterkenny - - -	One - - -	Acute mania
Limerick - - -	One - - -	Acute melancholia
Londonderry - - -	One - - -	Melancholia
*Maryborough - - -	Ten - - -	Almost all cases of a melancholic type
Monaghan - - -	One - - -	Melancholia
Mullingar - - -	Two - - -	Acute melancholia
Omagh - - -	One - - -	Acute mania
Sligo - - -	One - - -	Melancholia
Waterford - - -	None - - -	—

At the time of writing this paper I had not yet received replies from the Richmond and Carlow Asylums. From the former I should have wished very much to have learned the number of cases admitted where the probable cause or exciting cause may have been influenza. It being the largest asylum in Ireland, and considering that during the year 1894 influenza was very prevalent in Dublin and its

suburbs, I presume a fair number of cases must have been admitted, the exciting cause being certified as due to the above-named affection.

The queries sent by me to the various Superintendents in Ireland were as follows:—

- I. How many patients in your asylum have been admitted during the year 1894, the probable cause being certified as due to influenza?
- II. What form of insanity have those cases been certified as?
- III. What has been the percentage of recoveries in such cases?
- IV. Do you personally believe that influenza has been a cause, directly or indirectly, for an increase of insanity in Ireland?

I shall now endeavour to deal with the above questions individually. It will be seen from the Table of Asylums mentioned that in the greater number of them there was at least one case admitted from the cause mentioned; this number may appear very small, but I assume that any agent or agents which, directly or indirectly, numerically increase insanity, whether in large or small numbers, must naturally be regarded as a cause; and when we find that we have 49 cases whose apparent cause of insanity was due to influenza, I think it but natural to assume that this affection may be regarded as a "Factor in the Increase of Insanity in Ireland."

I might mention that, with regard to Belfast Asylum, Dr. Merrick informed me that there were but seven cases certified as due to influenza, but that he is personally aware of fifteen other cases in the Asylum in which the cause of insanity was indirectly due to influenza. The same remarks will apply to Maryborough; only five cases out of the ten stated on the table were certified as due to influenza, but from my knowledge of the patients, and from tracing up the family history, I have no doubt in stating that the other five cases were indirectly due to this disease.

Such experience but goes to point out a fact well known to Medical Superintendents and Medical Officers connected with asylums—viz., that too much credence must not be placed on the accuracy of the certifying form of lunatics, as

outside medical men have, in many cases, very poor chances of studying and observing such cases, and are often deliberately led astray by the relatives of such patients, who, for instance, deny the existence of heredity in their family history, which, they imagine, casts an indelible stigma over themselves and their connections. Then, if any member may develop symptoms, after being prostrated by such a lowering disease as influenza, the medical attendant may naturally assume that this is the direct cause of their insanity, when, in reality, it is but the exciting cause which fans the latent spark of heredity to burst forth into the furious flames of mania or melancholia. As to what form of insanity those cases admitted suffered from, it will be seen by the above table that they were nearly all of a melancholic type.

With regard to No. III. question, I shall not attempt to give any percentage, as all the Medical Superintendents did not answer that question; I therefore could not make a comparison with any degree of accuracy.

With reference to Question IV.: Do you personally believe that influenza has been a cause, directly or indirectly, of an increase of insanity in Ireland? The answer received to this question was, in the greater number of cases, "No," although some stated that they believed it was an exciting cause and factor, but to a very small degree. Of course, I believe that in all cases each Medical Superintendent based his answers and belief on his own experience and the number of cases admitted to each individual asylum. But if we take the aggregate number admitted during one year to the above-named asylums, I think this disease influenza will compare very favourably with some of the other causes—viz., tea-drinking, tobacco-smoking in youth, and ether-drinking, which have been assigned as potent factors in the increase of insanity in Ireland. If we wander outside asylum circles, we find other proofs that mental deterioration, if not insanity, has followed in the wake of this disease. I have on more than one occasion, when in conversation with professional brethren who were not connected with asylums, been informed that they, in their private practice, have met with several cases which, after influenza, have developed manifest symptoms of temporary insanity, but whose friends objected

to their admission to asylums, notwithstanding that the public mind is being gradually educated to look on asylums as hospitals for the treatment of nervous diseases, and that such an objection should not exist. It is well known that insanity begets insanity, and it is not impossible or improbable that during this derangement of mental state, be it temporary or permanent, the seed of insanity has been sown which at some later date will add one more unfortunate being to swell the numbers in our already overcrowded asylums. In this way, or by this means, I think it may be demonstrated that influenza will be a factor to be considered as a cause for increase indirectly in the near future.

ART. X.—*Lemons as a Therapeutic Agent.* By H. S. PURDON, M.D.; Consulting Physician, Belfast Hospital for Diseases of the Skin, &c.

I HOPE to be excused for calling attention to so well known and easily obtained a fruit as lemons, and for the last-mentioned reason it may prove a useful medicinal agent in cases where, at the time, nothing else is to be obtained. In summer "a lemon" is to be found in nearly every house, used for making refreshing drinks, or often eaten by those persons who are troubled with "sluggish livers." It may not be generally known that lemon-juice is useful for allaying itching of the skin, as in pruritus. As a styptic, lemon-juice has been used with success by Dr. Burton, of Birmingham, who some time since recorded cases in the *British Medical Journal*—one, that of a young man suffering from a very severe attack of epistaxis. Dr. Burton injected into the nostrils, using an ordinary glass syringe, a mixture of lemon-juice and water (1 in 4), with such good results that the hæmorrhage was at once controlled, and there was no recurrence. The same gentleman mentions its use in hæmatemesis, and also in a case of typhoid fever with bleeding from the bowels and accompanied with vomiting.

In a case occurring in my own practice—viz., an obstinate and chronic example of palmar psoriasis—both hands attacked—of some three years' duration, the remedy was of decided use. The patient, aged thirty-eight, had enjoyed

good health, never had syphilis, was married and had children, likewise in good health. For close on two years he was dosed with arsenic in various forms—Donovan's solution, &c.—whilst locally the hands were tried with such remedies as Goa powder, strong iodine, Unna's salicylic plaister, ichthyol. Rubber bandages were applied, and gloves were worn night and day, all without making any impression. Three months ago all treatment was discontinued, and I recommended him to carry in his pocket a cut lemon, with which to frequently (every hour if possible) rub the same over the affected places. He called a few days since. The psoriasis has disappeared; and he also brought me a message from his wife to the effect: "Why did I not tell him about the lemon at first?" seeing his apothecary's account has been heavy. The rubbing of cut lemon over patches of palmar psoriasis, in which the skin is hard and infiltrated, can be tried in unyielding cases; however, I do not think it would be a suitable application in the acute inflammatory stage of the disease.

The juice of lemons is, according to Dr. Brandini, of Florence, useful for the purpose of relieving pain in cancerous ulceration of the tongue, a small bit of cut lemon to be used or applied to the affected part. The same is a frequent application to the "furred" tongue of fever, as used by nurses to "wipe off the coating."

Lemon-juice is said to contain such potassium salts as the citrate, malate, and tartrate.

"DIPHTHERIA AND ITS ASSOCIATES."

MR. LENNOX BROWNE has just published a second edition of his very able work bearing the above title. The only literal changes in this second issue consist (the author himself tells us) in a new Preface and Postscript on the Antitoxin Treatment of Diphtheria. In the Postscript, Mr. Browne avows himself to be still a disbeliever in the antitoxin treatment, declaring "that the scientific basis on which the treatment is founded cannot be sustained by any practical test." It is refreshing to meet with so doughty a champion, and the author's arguments will be read with interest. The work is published by Messrs. Baillière, Tindall, & Cox, of London, and in the United States of America by the J. B. Lippincott Company, of Philadelphia.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Lectures on Renal and Urinary Diseases. By ROBERT SAUNDBY, M.D., Edin.; Fellow of the Royal College of Physicians, London, &c., &c. With numerous illustrations. Second Edition. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co. 1896. 8vo. Pp. 434.

IN 1889, Dr. Saundby published his valuable Lectures on Bright's Disease. We described his work as "an original and most valuable contribution to the literature of kidney diseases." In 1891, he published in a separate volume his "Lectures on Diabetes," including the Bradshawe Lecture on the Morbid Anatomy of Diabetes mellitus, which was delivered before the Royal College of Physicians of London on August 18th, 1890. Of this second instalment of Dr. Saundby's work we said: "It is a fitting sequel and companion to the 'Lectures on Bright's Disease,' and establishes Dr. Saundby's right as an original thinker and writer to a niche in the Temple of Medical Fame."

The volume which now lies before us includes both his former treatises. They have been carefully revised, much new matter has been added, and the author has included a section on miscellaneous affections of the kidney, which makes the book more complete as a work of reference.

The volume contains four sections—on Bright's disease, the urine, diabetes mellitus and insipidus, and miscellaneous renal diseases respectively. The first section opens with a short chapter on the general anatomy of the kidney. The subject is illustrated by two diagrams after Landois and Stirling, and one diagram after Tyson. In this connection we may mention that the volume is much better illustrated than the previous volumes were. There are, in the first place, four coloured plates, representing retinitis albuminu-

rica, neuro-retinitis albuminurica hæmorrhagica, retinitis hæmorrhagica diabetica, and retinitis centralis punctata diabetica.

Besides these plates not fewer than 67 wood engravings are incorporated in the text. The least satisfactory among them are some of those which represent urinary deposits and crystalline forms. One or two plates after the pattern of those in Funke's beautiful *Atlas der physiologischen Chemie*, published at Leipzig so long ago as 1853, would have been more effective and more instructive.

The miscellaneous renal diseases discussed in Section IV. are stone in the kidney, hydronephrosis, pyonephrosis, pyelitis, hæmaturia, and hæmoglobinuria. All these topics are treated in the author's usual clear and concise manner, which leaves little room for criticism and none for dissent.

In our notices of the former edition of each part of Dr. Saundby's work we gave a somewhat detailed analysis of the contents. It is necessary now only to reiterate the favourable opinion we then expressed as to the merits and scientific value of these "Lectures" by the Professor of Medicine in Mason College, and the Physician to the General Hospital, Birmingham.

The Private Sanatoria for Consumptives and the Treatment adopted within Them. By DR. ARTHUR VON JARUNTOWSKY, of Posen (formerly Assistant to Dr. Brehmer, of Goerbersdorf). Translated by E. CLIFFORD BEALE, F.R.C.P.; Physician to the City of London Hospital for Diseases of the Chest. London: The Rebman Publishing Company. (No date). Pp. 48.

THIS is an interesting little book which will repay perusal. It gives a very clear account of a mode of treatment of consumption which, though considerably employed in Germany and elsewhere abroad, has been hardly at all tried in England.

Dr. von Jaruntowsky considers that the main features of sanatorium treatment are climate, hygiene, and dietetics. The institution should be situated among hills and at a considerable elevation, the exact height depending on the locality; thus, in Germany an altitude of 1,500 feet is sufficient, while

in Switzerland it must be 4,500 to 5,100 feet, and at the Equator 9,000 to 12,000 feet. The institution, too, must be in an immune district—*i.e.*, a district whose native inhabitants are relatively free from phthisis. In such an institution the patient should remain all the year round.

In different sanatoria somewhat different systems of treatment are pursued, some authorities laying most stress on the patients lying down in the open air, while others attach great importance to methodical hill-climbing. All these varieties of treatment are fully described. The internal arrangements of sanatoria and the dietary are mentioned. We notice that a good deal of some kind of light wine is given—about 12 oz. being allowed to those who are only slightly ill, while febrile patients take about 1½ pints daily.

The treatment of various symptoms and complications is fully described. The chief thing to be dreaded is pyrexia. To combat it, as well as climatic influences, alcohol is highly esteemed. "Wine in many cases obviously lowers the temperature and checks the reduction of albumen." In addition to very liberal quantities of wine, phenacetin is employed in preference to other antipyretic drugs. The treatment used for cough, digestive troubles, &c., is fully described.

In the second part of the work an account is given of a number of sanatoria. This part of the book is very full and complete; the buildings, the surrounding lands and walks, the dietary, and the "jour médical" of ordinary cases are all described at length. The sanatoria mentioned are Goerbersdorf (Dr. Brehmer's), Falkenstein, near Frankfurt, Dr. Turban's sanatorium at Davos, and several others. Differences exist in the modes of treatment at several of these sanatoria; such points, together with the situation, dietary, and cost of living are explained.

With regard to the results to be obtained at these establishments, the statistics of Goerbersdorf and Falkenstein, which relate to over 6,000 cases, show 25 per cent of cures, without having regard to cases which show a very considerable degree of improvement—figures quite sufficiently important to force the subject on the attention of physicians.

In his preface Dr. Clifford Beale states his view that in these countries we have too much neglected sanatoria as a

means of combating tuberculosis. Institutions such as those here described—a “Kur” in fact—do not suit the British well-to-do patient as well as they do those who claim Germany as their Fatherland. Still, as he says, we should use all the means in our power of combating phthisis; poor patients improve in hospitals for consumption; and there is no reason why a first-class sanatorium in England should not succeed. Among the hills of Surrey, Sussex, and Hampshire are many localities which, he says, are very suitable for such an institution.

Prize Essays on Leprosy. NEWMAN; EHLERS; IMPEY.
London: The New Sydenham Society. 1895.

THE New Sydenham Society has done well to reprint these four prize essays; and the leprosy scare, which seemed to some absurd, and to some mischievous—in spite of the “presidency of H. R. H. the Prince of Wales”—has been productive of some useful literature. The first paper, Dr. George Newman’s, is mainly historical. The historian, as well as the pathologist, has to face the initial difficulty that the term “leprosy” has been at all times—and still is—applied to various cutaneous diseases which have no connection with true leprosy.* This confusion has led to much misapprehension, and in practice to cruelty, by enforcing segregation in cases where there was absolutely no danger of contagion or infection. Dr. Newman has striven to confine himself to *elephantiasis Græcorum*.

Complete lists of the leper-houses founded and maintained in the British Islands in the Middle Ages are given, and much information upon the treatment to which the lepers, or pseudo-lepers, were subjected. One thing is made abundantly clear—there was no such “segregation” as is supposed, as is suggested in these days and is practised in some places. Such segregation “as is understood and practised now-a-days never entered the minds of those

* A paper by Rev. T. W. Balcher, M.D., which appeared in the Dublin Quarterly Journal of Medical Science in 1864, on Hebrew, Mediæval, and Modern Leprosies, is referred to, and should be consulted by all interested in the history of the subject.

desiring to separate lepers from the healthy." English lepers might attend markets. In some hospital codes expulsion was the penalty of misconduct—a fact which shows that leper-houses were intended for the benefit of the leper, not for the security of the public. In England, it is plain, leprosy is a dying disease; dying a natural death without segregation or other form of fussiness. In the thirteenth century, in Dr. Newman's opinion, it reached the acme of its prevalence; in the end of the thirteenth, or beginning of the fourteenth, decline began. That the disease rose, culminated, and declined, is unquestionable; but the statistical determination of its periods is impeded by the fact already noticed—the imperfection of nomenclature and diagnosis.

"It must be borne in mind," says Dr. Newman, "that these various dates may depend upon an imperfect or incorrect diagnosis. Very much of the diagnosis of leprosy was left to the untrained, and even uneducated. Diseases far removed from leprosy were doubtless frequently classified with it. Gate-porters, policemen, priests and monks, were frequently the judges in suspected cases. Even now-a-days such people would not be able to correctly form an opinion on such matters, nor would it be expected of them. Much less were they able to do so in the ignorance of the Middle Ages. We shall never know exactly what diseases were classified under the term 'leprosy,' but we do know that they were many, and that many different skin-diseases found refuge in the leper-houses."

As to the causes of the wide prevalence of true leprosy in the British Isles in the Middle Ages, no physician who has practised in India will accept the fish theory. Leprosy prevails in India* in districts where no fish, salt or fresh, is eaten. We can attach no importance to the coincidence (on which Dr. Newman is disposed to lay some stress), of the decline of leprosy with the "decline of excessive eating of salt and bad, as well as fresh, fish," or to the asserted coincidence of the fish-eating areas with the areas of endemic leprosy.

It only remains for us to say that the one result of

* We may note here that the essayist suffers under the not uncommon delusion that "the ordinary diet of the natives of India is rice!"

Dr. Newman's study of leprosy is a conviction that the disease did not spread by contagion (defined as "transmission by touch through an unbroken surface"), nor is an enforced segregation the cause of its decline.

Lists of leper-houses in England, Scotland, and Ireland are subjoined to Dr. Newman's paper. There were three in Dublin, besides one at Palmerstown and one at Lepers-towne, now glorified into "Leopardstown."

Dr. Ehlers' paper is altogether devoted to leprosy in Iceland. Even there it is a dying disease. The total number of lepers in the island in 1768 was estimated at "upwards of 280." In two journeys to and through the country—the second in 1895—the author discovered only 159, which he speculatively increases to 200. He quaintly attributes the diminution, partly, to a "very sensible law of the 28th of March, 1776, which put a stop to marriage between lepers"—as if marriage were a necessary condition precedent to propagation. He has no doubt that the disease spreads by "infection," which he does not define, and which is very loosely used. Of course the "heroic Peter Damien" is trotted out once more, and even the inconclusive inoculation of the arm by Dr. Arning is adduced as a proof of infectiousness. The "clinical proofs of infection" which he quotes are almost all (Dr. Hawtrey Benson's included) cases of contagion, and so termed even by himself. The distinction is of great importance when the compulsory segregation of all lepers is seriously considered. Even in the Mosaic legislation a breach of surface was the test of the necessity for separation from the healthy; and in one instance a "leper as white as snow" appears at court in intimate association with the monarch.

As to hereditary transmission, Dr. Ehlers personally examined 102 lepers in Iceland, of whom exactly *one-half* were patients in whose families no cases had previously occurred. This fact, so far as it goes, is unfavourable—as are many other facts—to the theory of transmission by descent.

The third of these prize essays is on leprosy in South

Africa. It is a "Report on the facts as to the recent increase of leprosy at the Cape, and its prevalence in South Africa." The author is Dr. Impey, the Medical Superintendent of the Robben Island Leper and Lunatic Asylum. In 1845 disused buildings on Robben Island were fitted up for the reception of lepers, and the inmates of the asylum at Hamel-en-Aarde—in which 400 patients had been sheltered between 1816 and 1845—were transferred. In 1892 the Leprosy Repression Act, which had been passed in 1884, was promulgated and enforced. New buildings for lepers were erected on the Island, and patients were collected from all the outlying districts of the colony. From 1845 to 1894 1,697 lepers were admitted to this establishment, of whom 375 were discharged and 776 died. It is estimated that there are 1,750 lepers in the South African Colonies and States. Of these four—Cape Colony, the Orange Free State, Bechuanaland, and Natal—"segregate," more or less.

This Report of Dr. Impey's is mainly historical and statistical, but he supplies also a valuable paper on "Spontaneous Recovery from Leprosy." "In a few cases," he says, "the disease is cured spontaneously, not from the effects of external applications or internal treatment, but from causes at present unknown, which exist within the body itself; the system throws off the disease, it cures itself." This process takes place only in the anæsthetic form of the disease, in which medical aid is powerless. In most cases leprosy terminates fatally, in a few the patient survives the acute attack, and is healed. From carefully-prepared tables, showing the duration of cases in the Robben Island Asylum, Dr. Impey infers that the duration of the disease is within eleven years. Few live longer than eleven years after admission. Many of the cases which the Leprosy Repression Act drove into "segregation" in 1892 were self-cured, Dr. Impey thinks. The existence of perforating ulcers does not necessarily imply the persistence of the disease. The ulcer is due to the presence of necrosed bone, and will frequently heal if the irritant be removed. If Dr. Impey's views as to spontaneous cure, and the fallacy of inferring the persistence of the disease from the presence

of ulceration are accepted—and to us they appear sound—many unhappy victims of a form of imprisonment for life, in loathsome associations, will be relieved from misery.

We regret to have observed so many misprints in one of the New Sydenham Society's volumes. Latin appears to have been an unknown tongue, and has suffered cruelly.

Transactions of the American Pediatric Society. Seventh Session. Held at the Virginia Hot Springs, May 27, 28 and 29, 1895. Edited by FLOYD M. CRANDALL, M.D. Volume VII. Reprinted from the Archives of Pediatrics. 1895.

THIS very well got-up octavo of 222 pages gives, besides the list of officers and members of the Society, the president's address, and an account of a pediatric poem—entitled, "Infancy: or the Management of Children. A Didactic Poem, in Six Books. The Fourth Edition. By Hugh Downman, M.D., Edinburgh, 1788."—an excellent series of thirty-five articles dealing with the medicine, surgery, pathology, and therapeutics of the young.

Some of our transatlantic brethren are very patient and thorough in their endeavours to procure complete extermination of the troublesome microbes. "Some of the patients in the infectious wards were very slow in getting rid of their bacilli. One case was lodged and fed at the expense of the hospital for two months, for the sole reason that we failed to obtain two negative reports in succession. He was in robust health, and a particularly noisy and troublesome boy. Finally he was discharged, much to the relief of all concerned." Such perfect hygiene and perfect patience are seldom found in the institutions of our experience.

The eruptive fevers, diphtheria, grippé, &c., receive instructive attention. A very interesting specimen of pygopagus—delivered by Dr. S. Tynberg—is here recorded by Dr. A. Jacobi. It appears to be the *fourteenth* on record. There is an extremely well-described and well-illustrated case of sarcoma of the kidney, which occurred in an infant. One of the most satisfactory articles in the volume is that

on Tetanus of the "New-born," by J. Lewis Smith, M.D., New York. The symptoms, &c., are extremely well discussed. The ponderous question of treatment is not so efficiently answered as a lover of our babes and sucklings could desire. *Antitoxin* is, of course, the great hope of the last decade of the nineteenth century. But: "The tetanus antitoxin, like that of diphtheria, is still on trial, and many more observations will be required before its efficiency is determined."

We have derived pleasure and instruction from the perusal of this volume.

A Manual for Hospital Nurses, and others engaged in Attending on the Sick. By EDWARD J. DOMVILLE, L.R.C.P., Lond.; M.R.C.S., Eng.; Surgeon to the Devon and Exeter Hospital, and to the Exeter Lying-in Charity; Lecturer and Examiner to the St. John's Ambulance Association. Eighth edition. London: J. & A. Churchill. 1896.

THE fact that this booklet has, within a comparatively short period of time, attained to the dizzy elevation of an eighth edition is by far the most substantial evidence that can be afforded of the fact that its existence has supplied a want, and one which was widely felt. At this time of day it would, accordingly, be a work of supererogation to criticise the details of the text. The author seems determined to adhere to his short and concise paragraphs. The "Glossary" at the end is a feature to be appreciated. Perhaps in a future issue a few wood-cuts may be inserted.

Technique Microscopique appliquée à l'Anatomie Pathologique et Bactériologie. Manual Pratique Par le DR. C. VON KALDEN, Prof. à l'Université de Freiburg; et le DR. O. LAURENT, Chargé de Course à l'Université de Bruxelles. Paris: Georges Carré, Éditeur, 3, Rue Racine, 3. 1896.

IN this extremely well-printed octavo of 186 pages, the authors give an excellent description of the technical

methods of microscopy as applied to pathological observation and discovery. The book, like other foreign books of its class generally, is issued in paper cover; it possesses no index; and is unenlightened by a single illustration (!!!)—a rather strange omission for an otherwise admirable textbook of its subject. With these drawbacks, we have no hesitation in recommending the text to the attention of the practical pathologist.

Modern Greek Mastery: A Short Road to Ancient Greek.

By THOMAS L. STEDMAN, A.M., M.D. New York: Harper and Brothers. 1896. 8vo. Pp. 380.

WE offer no excuse for noticing this work in the pages of a medical journal, for we are of those who thoroughly believe in the advantages of a liberal education and of a sound working knowledge of Greek and Latin to the student of Medicine. Apart from the mental training afforded by such studies, the prominent everyday part played in medical nomenclature and medical literature by Greek especially is a self-evident fact. Hence it is that we cordially welcome such a work as that which Dr. Stedman has written.

The author has been led to publish the book as a sort of protest against the scholastic methods of teaching Latin and Greek. That his literary effort deserves consideration at the hand of scholars is clear, and he has had some very gratifying words of approval from Mr. Gennadius, of London, and from a number of prominent Greeks in the United States of America.

Dr. Stedman suggests that modern Greek might well be adopted as an international language for use at International Medical Congresses and generally as a common medium of expression. He adds that it is perhaps chiefly as an introduction to a knowledge of the ancient form of the language that his book will find its apology.

The pronunciation presented in its pages is, of course, that of the Modern Greeks. That it differs in some respects from that of the ancients will hardly be disputed, but it is evidently more near that of the ancients than is the artifi-

cial and indefensible system taught in our schools to-day—a system devised at second hand by Erasmus, who himself used the modern pronunciation when professor of Greek at Cambridge.

The Greek type used throughout the work is beautifully clear. Appropriately enough in a book written by a physician, some of the more advanced lessons deal with medical subjects, such as the human body, meals, diseases, &c. Taking it as a whole, the book is full of interest and well worthy of attentive study.

A Pharmacopœia for Diseases of the Skin, containing Concise Formulæ for Baths, Mixtures, Ointments, Lotions, Caustics, Rules of Diet, Classification and Therapeutical Index. Edited by JAMES STARTIN, Senior Surgeon to the London Skin Hospital, Fitzroy-square. Fourth Edition. Bristol: John Wright & Co. London: Simpkin & Co., Ltd. 1896.

THIS booklet contains a large number of useful formulæ for application in various forms of skin disease, and its periodical re-publication is useful to the profession in general, as well as to Mr. Startin in particular. There is a very sensible preface, and the *Pharmacopœia* proper is followed by "General Directions," "Rules of Diet," "Meals," "A Classification of Skin Diseases"—every "skin specialist" has, of course, manufactured a "classification" of his own—and a "Therapeutic Index." All these items are well worthy of perusal.

Hints on Elementary Physiology. By FLORENCE A. HAIG-BROWN. With Illustrations. London: J. & A. Churchill. 1896.

THIS handy booklet is introduced to the reader by the aid of a preface from the pen of Dr. William M. Ord. "The *Hints* are founded upon notes taken by the two sisters of the lecturer and demonstrations given by the medical officers of St. Thomas's Hospital as may help to fit them for the

discharge of their duty in the wards. . . . The reception, the interchange, and the transmission of the lamp of knowledge are, as has long ago been recognised, an orderly and effective means for the promotion and for the application of science. This book seems to me to embody to the full such a method. Its aspect is that of the learner; it registers the impressions received by attentive minds in the hours spent in the class-room. It is intended clearly to be helpful, but not final or complete, to be useful as a guide, available for reference, stimulating in much of its terseness and brevity to wider reading and study."

And this miniature volume presents its fourteen chapters and its twenty wood-cut figures, and is well printed and tastefully bound, and contains a very large number of items of concentrated information in the various departments of anatomy, physiology, histology, pathology, chemistry, and hygiene. What more does the "Probationer and Sister" want?

A Pictorial Atlas of Skin Diseases and Syphilitic Affections.

Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P.; Assistant Physician to, and Physician to the Department for Diseases of the Skin at, the Middlesex Hospital, London: The Rebman Publishing Co. 1896. Parts IV., V., and VI.

IN the fourth Part of this beautiful Atlas three diseases are illustrated—*Mycosis fungoides* (Alibert's Disease), psoriasis, and tubercular leprosy of the face.

Two cases of *mycosis fungoides* are given—each of them being illustrated by photo-lithochromes. The first case was that of a hairdresser, aged forty-seven years, under the care of M. Ernest Besnier in 1889, when the lesions represented in the photo-lithochrome were modelled by Baretta. The drawing shows the chest-wall, where the disease was situated, reduced about a quarter in size.

The second case, that of a man, aged sixty-five, under the care of Professor Fournier, represents another variety of the disease, of which the only symptom is the presence

of tumours of mycosic nature which arise from apparently healthy skin.

Dr. Pringle, commenting upon the first case, remarks that, as an incentive to further trials of serum therapeutics in mycosis fungoides, it may be borne in mind that Bazin's first case entirely and permanently recovered after an attack of erysipelas.

The illustrations of tubercular leprosy of the face are among the most interesting in this Part of the Atlas. The unfortunate subject of the disease was a literary man, twenty-seven years of age at the time of his admission in 1887 to the Saint Louis Hospital. He was born at Guadeloupe, a leprous district. The first symptom of leprosy appeared when he was about nineteen years of age, and was an incapacity to bear the hot season, with some slight loss of flesh. The cast portrayed in the photo-lithochrome presents a remarkable variety of the "leprous mask" and a type of complete tegumentary leprosy.

The case is particularly interesting, because the patient was considerably benefited by long internal and external treatment. Nine years after the cast, from which the photo-lithochrome is taken, was made by Baretta, his face was restored to health. At page 99 two photographs are reproduced—the first showing the terrible deformity in 1888, the second, the patient's vastly-improved appearance in 1896.

M. Besnier accentuates the fact that the changes in the patient's face are the result of a long course of electro-galvanic cauterisation, "a certain means of reducing leprous tuberculisation wherever localised."

Part IV. fully sustains the artistic character which the Pictorial Atlas has all through enjoyed.

The fifth fasciculus of this thoroughly artistic Atlas contains four plates, with their accompanying letterpress. Plate XVII. illustrates a striking example of that (in this country) rare form of ringworm—the "kerion" of Celsus—to which the name of conglomerative or agminate trichophytic folliculitis has been given. The case occurred in the practice of M. Sabouraud. Commenting upon M. Sabouraud's description, Dr. Pringle observes that the term "ringworm" must sooner

or later fall into disuse, and that at present we may apparently with scientific propriety use the words "Microsporosis" and "Trichophytosis" to indicate the diseases caused by small-spored and large-spored organisms respectively. Bacteriologically, agminate trichophytic folliculitis is caused by a trichophyton, lying mainly outside the hair, which has pyogenic properties: it is the trichophyton of the horse with white, powdery cultures.

The other illustrations in Part V. are lupus pernio (Plate XVIII.), described by Dr. Tenneson, physician to the Saint Louis Hospital, Paris; papulo-tuberculous syphilides (Plate XIX.), by Dr. Hallopeau, of the same hospital; and, in Plate XX., dermatitis vacciniiformis infantilis and acute ecthyma of infancy, by Dr. Hallopeau. The former curious form of inflammation of the skin is observed in ill-cared infants during the early months of life. The elementary lesions are usually localised round the genital organs and anus, and they readily yield to simple dressing, but above all to cleanliness. Acute ecthyma of infancy is a painful affection, beginning as small erythematous papules and also vesicopustules, followed by scooped-out ulcers, resembling simple chancres. These ulcers dip deeply, as well as spread widely, thus justifying the epithet of *térébrant* (literally, *boring*) applied to this form of ecthyma by French writers. The immediate cause of the disease has not yet been found out. The *Streptococcus pyogenes* has been detected in a case, and so has the *Bacillus pyocyaneus*.

This part of the Atlas is fully equal to its predecessors in point of interest.

The sixth fasciculus of this splendid Atlas contains four plates, with their accompanying descriptive letterpress. The subjects illustrated are—first, lesions in a habitual consumer of cocaine and morphin, who was under the care of Professor Fournier in the Saint Louis Hospital in 1894 and 1895, and whose case is well reported by M. Gaston, of the same hospital. The lesions simulate tubercular and ulcerating syphilides. The second plate illustrates a remarkable example of ringworm of the body (*Trichophytosis cutanea* or *Herpes circinatus*) from a patient under the care of Mons. E. Besnier in 1888. Unfortunately the plate is

disfigured by the misprint "Trichophylosis" for "Trichophytosis." In the text also we have the barbarous spelling "circinnatus" for "circinatus." The case is reported by Mons. Sabouraud.

Plate XXIII. represents syphilitic hyperkeratosis of the sole of the foot in a man, aged 33 years, under Mons. Besnier's care. Mons. Lucien Jacquet, formerly house-physician to the Saint Louis Hospital, and secretary of the Dermatological Society of France is the reporter. The lesion shown in the plate consists of marked hypertrophy of the epidermis upon a substratum consisting of a "specific" infiltration of the corium of the plantar region. The last Plate (XXIV.) in the Part is a beautiful photochrome of Psoriasis figurata affecting the upper dorsal region of a man, aged 22 years, who was admitted to hospital on February 12th, 1886, under the care of Mons. Ernest Besnier. He had been a "psoriatic" since he was 5 years old.

All four illustrations in the Part of the "Pictorial Atlas" before us are photochromes from models by Mons. Baretta, to whose surpassing artistic skill the museum of the Saint Louis Hospital owes so much.

Transactions of the Association of American Physicians.

Tenth Session. Held at Washington, D.C., May 30 and 31.

Vol. X. Philadelphia. Pp. 406.

WE can endorse the statement of the President, Dr. Osler, in his Address to the Association, that the nine previous volumes of the Transactions "contain the most noteworthy contributions to scientific and practical medicine which have been made in" the United States "during the last ten years." Medicine, with pathology, including surgery, gynæcology, and general practice, is the object of the Association. The number of members is limited to one hundred—an attempt to increase it to one hundred and twenty-five was defeated. This limitation, with the restriction of membership to men who have done good work, and the wide field of the United States from which to choose, is

ample guarantee for the value of the papers selected for publication in the annual volume of Transactions. In this—tenth—volume there are twenty-four essays, one of which, on “The Treatment of Diphtheria by Antitoxin,” by Dr. William H. Welch, of Philadelphia, occupies seventy pages. Dublin hygienists, and dwellers on the banks of our flowing cesspool, will find Dr. A. C. Abbott’s paper, on the effects of gaseous products of decomposition on health, specially interesting. Experiments on animals by Magendie and others, down to Alessi, are described in detail. Alessi stated that in animals normally insusceptible to particular infections a condition of susceptibility could be induced by exposure to the emanations from cesspools. “He found that guinea-pigs, rabbits, and rats—animals not usually open to infection by the *Bacillus typhi abdominalis*—could be rendered susceptible by exposing them, for different periods of time, to the gases arising from a privy vault.” We quote Dr. Abbott’s conclusions from his own series of careful experiments:—

“In only two instances in this series of experiments did we detect constitutional disturbances or pathological lesions that could positively be attributed to the conditions under which the animals had been living. These were, in the main, acute and resulted in the death of the animals in a few hours. We were not able to determine that the general nutrition of animals kept for a time under normal conditions and then subjected to the gases of decomposition was conspicuously interfered with, nor did we observe very marked improvement in animals, as indicated by increase of weight, that were removed from the influence of the gases of putrefaction and placed under normal conditions.

“We did not observe any diminution in their resistance to infection in animals into which cultures of the typhoid bacillus were introduced during the time that they were inhaling the volatile products of putrefaction.” “In so far as the sewer gas question is concerned, it is, therefore, difficult to conceive that the gaseous emanations from sewers or cesspools can play a part in the induction of disease when so highly diluted as they are in the air ordinarily respired by individuals into whose habitations such gases may be leaking.”

We are so much accustomed to associate endemic bronchocele with Switzerland that it comes upon us as a surprise

to hear of its prevalence elsewhere. It is found not rarely, however, in parts of Canada and the States bordering on the great lakes, Michigan, Superior, and Huron. It is found, we learn from a paper in this volume (by Dr. Dock, of Ann Arbor), in all parts of the State of Michigan. Most of the sufferers are Americans, and generally natives of the district; but immigrants also are affected, French-Canadians included. It is not known ever to be congenital, but all ages are liable. Parents and children are attacked; in one instance a mother and eight children were goitrous. Females are more liable than males. Cretinism and myxœdema have not been observed by Dr. Dock. Where the human subject is commonly affected, some of the lower animals are found goitrous too—horses most frequently, then dogs, calves and lambs; more rarely cows and sheep. The ætiology is, as usual, obscure; but Michigan conditions effectually dispose of some of the older theories. "Here are no glaciers, no deep valleys, no long-continued mists and fogs, no carrying of heavy loads on the head, no intermarrying." Cases occur in all grades of life; hygienic conditions are often excellent, and never very bad. Goitres occur impartially on all geological formations. There are some remarkable coincidences which let in a little light. A very large proportion of the Michigan cases drink water from *wells*. One girl of sixteen "developed goître a few months after a new well was put in use, and I was told that several others who used the water got goitres about the same time." Again, Dr. Taylor, of Ludington, states that the disease has been much less frequent there since lake-water was substituted for well-water.

What to do in cases of Poisoning. By WILLIAM MURRELL, M.D., F.R.C.P. Eighth Edition. London: H. K. Lewis. 1897. Roy. 32mo. Pp. 290.

It is necessary only to call attention to the publication of a new edition—the eighth—of this useful little book. It is thoroughly characteristic of its author in diction and style. But this is a refreshing trait and one which enhances rather than detracts from its value.

The work has been thoroughly revised. Several new

poisons and many new methods of treatment have been included in this edition, and a full index cannot fail to prove useful for reference. For the chemical tests the author expresses his acknowledgments to his colleague, Dr. Wilson Hake, lecturer on practical chemistry at the Westminster Hospital. The booklet has been clearly printed and neatly brought out by the well-known publisher, Mr. H. K. Lewis, of London. It should be in the possession of every medical practitioner.

The Enlarged Cirrhotic Liver. By ARTHUR FOXWELL, M.D., F.R.C.P.; Physician to the Queen's Hospital, Birmingham. Birmingham: Cornish Brothers. 1896. Pp. 30.

As a good deal of uncertainty has existed with regard to the size of the liver in cirrhosis—some holding that it is usually lessened in size, others that it enlarges in most cases—Dr. Foxwell undertook an investigation of the subject. In 202 private cases in which he had reason to suspect the liver was diseased, he examined the size of the organ. In 7 cases it was abnormally small, in 90 unchanged in size, and in 105 larger than its normal size. Of these 105, 21 had taken an excessive quantity of alcohol for years. The remaining 84 were not alcoholics, but suffered from various forms of disease—gout, heart or kidney disease, phthisis, &c. In the 21 alcoholics the liver extended on an average 3 inches below the costal arch in the right nipple line. In the other cases the liver extended on an average a little less than 2 inches below the ribs.

In the first part of the little book the non-alcoholic cases are discussed. It may be objected, as Dr. Foxwell admits in his preface, that such cases should not be called cirrhosis. He meets this objection by saying that they are, at any rate, "cases of chronic congestion, and chronic congestion is probably always accompanied by permanent exudation with the formation of fibroid tissue and parenchymatous degeneration." That may be true; still we object entirely to call, for example, the enlarged liver of chronic heart disease a case of cirrhosis. There is undoubtedly a chronic congestion of the organ, but this congestion is passive or mechanical, whereas in true

cirrhosis the congestion is active and due to the action of a poison of some kind on the liver.

The second part treats of *Alcoholic Cirrhosis*. As stated before, Dr. Foxwell believes that it is usual for the liver to enlarge in this disease. He examined a number of cases at the Queen's Hospital and in his private practice—28 cases in all—and in 26 the liver reached below the costal arch for $2\frac{1}{2}$ inches on an average. In 8 cases a *post-mortem* examination was made; 5 of these were men. The average weight of their livers was 64 ounces—i.e., 11 ounces above the normal weight. Three were females, and their livers weighed respectively 35, 43, and 68 ounces; but we may add that in the last case mitral regurgitation co-existed. Dr. Foxwell has not noticed that there is any difference between the effects of beer and whisky.

The author concludes by urging the importance of systematic palpation of the liver in all cases.

We think he has shown that in Birmingham many livers enlarge under the influence of alcohol; but we cannot agree with his view that in alcoholic cirrhosis the liver is generally enlarged.

A Handbook of Surface Anatomy and Landmarks. By BERTRAM C. A. WINDLE, D.Sc., M.D., M.A. (Dub.); Professor of Anatomy in Mason College, Birmingham; some time Examiner in Anatomy in the Universities of Cambridge, Aberdeen, and Durham. Second Edition. Revised and Enlarged in collaboration with T. MANNERS-SMITH, M.A. (Cantab.), M.R.C.S.; Lecturer on Osteology and Senior Demonstrator of Anatomy, Mason College, Birmingham. London: H. K. Lewis. 1896.

"THIS Second Edition has been carefully revised, and several new figures have been added. A sense of importance of the relation of the brain to the cranium and scalp has led us to bestow especial attention on this section, which has been largely re-written." So say the authors of this minute—though editorially subdivided—text-book. Some of the figures are coloured: there are seventeen in all. There are 143 pages, of which five belong to the index. Some others are occupied

by wood-cuts. The work, as stated in the preface to the first edition, "is intended for anatomical students in their first and second years;" and we believe that it will continue to be purchased by such students—of Mason's College, and, perhaps, of other institutions wherein one or other of the authors may be called to examine on the subject of Anatomy.

Affections Chirurgicales du Tronc (Rachis, Thorax, Abdomen, Bassin). Statistique et Observations par le DR. POLAILLON, Chirurgien de l'Hôtel-Dieu; Professeur agrégé à la Faculté de Médecine de Paris; Chargé de Cours de Clinique annexe; Membre de l'Académie de Médecine. Paris: Libraire Octave Doin, Éditeur, 8, Place de L'Odéon. 1896.

THIS paper-covered octavo of 550 pages gives a very good collection of instructive and interesting cases of surgical affections of the several regions of the trunk—"traumatiques" and "organiques." It contains a large, well-selected, judiciously-arranged, and instructively-commented-upon series of examples of the author's observations and his acquired knowledge. His descriptions are always lucid, and his opinions hardly ever nonsensical. This is well shown when he enters the domain of any of the surgical "fads" of recent years—his judgment is seldom perceptibly warped by the current of professional opinion. For instance, in connection with the well-worked "mares'-nest" of *Appendicitis*, we read:—"Lorsque je me suis trouvé en présence d'une première atteinte d'appendicite, caractérisée par des symptômes légers, j'ai prescrit un traitement médical: repos au lit, diète, applications émollientes et narcotiques sur le ventre, purgatif à doses fractionnées, par exemple quinze grammes d'huile de ricin tous les jours. 8 malades furent soumis à ce traitement médical, et guérirent au bout de deux semaines en moyenne.

"Dans les cas où la fièvre persistante, l'empatement profond, la fluctuation, me faisaient supposer un abcès pericæcal, ou m'en donnaient la certitude, j'ouvrais cet abcès le plus tôt possible."

In connection with the general question of prognosis in case of abdominal injuries and abdominal disease, we are told that: "Malgré la puissance de l'asepsie et de l'antisepsie, la

peritonite reste comme la principale cause de mort dans les lésions traumatiques et dans les affections organiques de l'abdomen." We have derived profitable instruction from the perusal of this volume, and cordially recommend it to the notice of surgical practitioners.

Manual for the Church Lads' Brigade Medical Staff Corps.

Containing : (1.) First Aid and Ambulance ; (2.) Conveyance of Injured—by Stretcher (Stretcher Exercises)—by Hand Seats ; (3.) Instructions to C. L. B. Medical Officers.

Compiled from the Manual of the Medical Staff Corps, by special permission of the Comptroller of H. M. Stationery Office. Published by the Church Lads' Brigade. Head Quarters : The Church House, Dean's Yard, Westminster, London, S.W.

THE Brobdignagian title of this Lilliputian volume is prefixed to a "Manual" of 71 pages. The writer's name is given in the preface—"The thanks of the Brigade are due to Dr. Prosser White, Surgeon-Major, 1st (Wigan) Battalion, Liverpool Regiment, for the great trouble he has so kindly taken in compiling and editing the Manual." There is a great deal of information—necessarily very superficial—contained in this minute volume. It will serve as well as any to introduce the layman to the "Ambulance and First Aid" practice.

Everybody's Medical Guide. A Handbook of Reliable Medical Information and Advice. By M.D. (Lond.) London : Saxon & Co.

THERE is no false modesty in connection with the issue of this booklet; except, perhaps, the suppression of the name of the gifted writer may be accounted as such. An enclosed slip informs the reviewer that: "*It deals with everyday ailments, and will be found to be of great assistance in all cases.*" [The italics are ours.] It is from the pen of a well-known West End physician, and the publishers commend it to the public with confidence." It is hard to attack a position so impregnable; even if we felt inclined to be pugnacious.

There really is a good deal of sound medical information and advice contained between the covers of this Lilliputian Medical Encyclopædia, and it is rather a pity that the atrociously vulgar assumption displayed in the above announcement should have been allowed to display itself. The short preface is in better tone and taste; which, in turn, is marred by the appearance of a full-page advertisement on the other side of the leaf. The publishers evidently "meant business" in the preparation of this small volume. "Mellin's Food" appears on the front cover, and "Fry's Cocoa" on the back.

Medicine and Kindred Arts in the Plays of Shakespeare.

By DR. JOHN MOYES, Largs; Fellow of the Faculty of Physicians and Surgeons, Glasgow. Glasgow: James MacLehose & Sons. 1896. 8vo. Pp. 123.

A MELANCHOLY interest attaches to this erudite volume, inasmuch as it is a posthumous work. In 1886, the lamented author presented his Thesis for the degree of Doctor of Medicine in the University of Glasgow. It was entitled "Medicine and its Kindred Arts in the Plays of Shakespeare." Eight years later Dr. Moyes decided to publish his thesis, but a fatal illness seized him in December, 1894, and the appearance of the work before us is due to Dr. James Finlayson, who undertook the preparation of Dr. Moyes' manuscript for the press. Suffice it here to say that Dr. Finlayson has discharged his pious task with accustomed ability and literary skill.

The work is dedicated to Prof. William Tennant Gairdner, M.D., LL.D., F.R.S. It is made up of an introductory section and five chapters. At the end is a bibliography of Shakespearean medicine and a comprehensive index. The topics discussed in the five chapters are, in sequence, physiological and pathological notions, medicine, materia medica, toxicology and therapeutics, surgery (including venereal diseases), and midwifery.

"It is evident," writes Dr. Moyes, "that notwithstanding the frequent references in Shakespeare to the circulation of the blood, he had no notion of its course, as understood since the discovery of Harvey. Obscure allusions suggestive of

the idea of the circulation of blood, *when we have this in our mind*, do occur." Some of these are remarkable enough, as when Brutus says in *Julius Cæsar*—

"As dear to me as are the ruddy drops
Which visit my sad heart."

Or again, in *Coriolanus*, Menenius says—

"I send it through the rivers of your blood,
Even to the court, the heart."

At the beginning of Chapter III., we are reminded that Shakespeare often uses the word "medicine" in the sense of a physician (the French *médecin*)—

"Meet we the *medicine* of the sickly weal,
And with him pour we in our country's purge
Each drop of us." —*Macbeth*, V. 2.

In *A Winter's Tale* we have—

"Preserver of my father, now of me,
The *medicine* of our house!"

But the most interesting passage of all is in *All's Well that Ends Well* (Act ii. sc. 1), where Lafeu says—

"I have seen a *medicine*
That's able to breathe life into a stone,
Quicken a rock, and make you dance canary
With sprightly fire and motion; whose simple touch
Is powerful to araise King Pepin, nay,
To give great Charlemain a pen in his hand,
And write to her a love-line."

King. 'What "her" is this?

Laf. 'Why, doctor she.'

This quotation illustrates Shakespeare's marvellous prescience in regard to that creation of the nineteenth century yclept the "Medical Woman." Helena herself was clearly possessed of sound common sense, for she said—

"Our remedies oft in ourselves do lie,
Which we ascribe to Heaven."

According to Dr. Moyes the fistula from which the King of France in *All's Well that Ends Well* was suffering was not a *fistula in ano* but an empyema of necessity, "or possibly a sinus arising from a diseased rib."

This work is very entertaining as well as instructive. The curious influence of the *music* of bagpipes in causing incontinence of urine is commented on at page 70—

"And others, when the bagpipe sings i' the nose,
Cannot contain their urine."

—*Merchant of Venice*, IV. I.

The fact—for it is a fact—was illustrated by a classical case in Julius Cæsar Scaliger's work "*De Subtilitate*" (1612).

In the chapter on Surgery, there is a long account of Venereal Diseases as described in Shakespeare's dramas. Falstaff, of course, plays a prominent part in this connection—

"A pox of this gout! or, a gout of this pox."

—II. *Henry IV.*, I. 2.

In a critical note on "the powdering tub of infamy," spoken of in *Henry V.*, II., 1, Dr. Moyes quotes Bullein's "*Bulwarke of Defence*, published in London in 1579. ("Booke of Compoundes." Folio 43.)

Chapter V. is on Midwifery. The subjects connected with this art, which are mentioned in the plays include premature births (in *Pericles* and *A Winter's Tale*), quickening, the altered appetite of pregnancy, deformity of the fœtus, eruption of teeth before birth, death of the fœtus and its retention *in utero*, retarded labour from deformity of the child, foot presentation, Cæsarean (wrongly spelled "Cæsarian") section, twin births, suckling and weaning.

It was Richard III. who was born with teeth—

"The midwife wonder'd; and the women cried,
O Jesus bless us, he is born with teeth!"

—III. *Henry VI.*, V. 6.

"Teeth hadst thou in thy head, when thou wast born,
To signify,—thou camest to bite the world."

—*Ibid.*, V. 6.

We have said enough to show that the little volume before us well deserves a careful study. It is a learned yet simple commentary on the plays of Shakespeare.

Strathpeffer Spa, its Waters and Climate. By FORTESQUE Fox, M.D. Lond.; Fellow of the Royal Physical Society of Edinburgh, &c. Third Edition. London: A. & C. Black. 1896. Pp. 194.

DR. FOX gives an interesting and attractive account of Strathpeffer, which is situated about twenty miles north-west of Inverness. After relating the history of the Spa—its powers of restoring health have been known for over one hundred years—he describes the nature of the various Spa

waters. There are four sulphur springs, one stronger than the old "strong" well having been discovered some years ago, and a chalybeate spring. Baths are also in use at the Spa: in addition to the ordinary baths, peat or moor baths are extensively employed; these consist of peat earth carefully mixed with hot water.

To the climate several chapters are devoted; its mean temperature in winter is much the same as that of London, and in summer it is cooler; but an important point is that in winter and spring the amount of sunshine is large. The botanical and geological features of the neighbourhood are described.

With regard to the conditions in which treatment at Strathpeffer is generally useful, Dr. Fox says that *scrofulous* affections, *skin* affections, chronic affections of the *stomach*, calculous disorders of the *kidneys*, chronic affections of the *liver*, *gout*, and *rheumatism* are the maladies which are most benefited.

The surrounding country is delightful; there are many pleasant excursions, and golf links have been provided.

It is plain that both the invalid and the holiday tourist might do much worse than visit Strathpeffer.

The Guide to South Africa. Edited annually by A. SAMLER BROWN and G. GORDON BROWN. 1896-97 Edition. London: Sampson Low, Marston & Company, Limited. 1896. 8vo. Pp. 420.

WE have on more than one occasion favourably noticed "Brown's Guide to South Africa." Each year it improves. In the edition of 1896-97 the text has been increased by about sixty pages. Part of the increase consists of additions to the information previously given about the various means of travelling through the country, more especially as regards posting from point to point in places where no railways exist.

A second journey through South Africa has enabled the Editor to bring his descriptions of the various towns well up to date.

Among minor alterations in the present edition will be noticed the most complete list extant of the Secwana

(Bechuana) names of animals, some fresh and accurate information about the farther parts of the so-called Kalahari Desert, as well as new details concerning hospitals and about general and local hygienic and climatological conditions. In a word, the work is even more comprehensive and exact than it was last year, and this is saying a great deal in its favour.

The price remains at the low figure of half-a-crown.

The Post Graduate. A Monthly Journal of Medicine and Surgery, containing in this Issue Neurological Reports from the Clinic of Professor Charles L. Dana. July, 1896. New York. Pp. 112.

THIS periodical, which is in the eleventh year of its existence, appears in a new form in this issue. The July number is devoted to one branch only of medical science, and is above the average in bulk and in copiousness of illustration. It contains seventeen papers, suggested by neurological cases presented in the hospital attached to the school—of which there were 1,596 in the year. Hypnotism, of which we have not heard very much of late, received special attention, and is the subject of an article by Dr. Wilkin, entitled *The Practical Uses of Hypnotism in Public Clinics*. Prof. Dana, in his introductory remarks, thus states the results of his own wide experience of this therapeutic method:—

“I have always maintained a most conservative opinion, both as to the reality and practical importance of hypnotic phenomena, but we have found from experience that, in a certain class of cases, suggestion, used sufficiently far to produce only minor degrees of hypnotism, is of value, and probably of more value in the class of cases that one meets at a public clinic than it is in the better educated classes, in private practice. I do not consider it wise or safe to induce in patients the phenomena of profound hypnotism, but the systematic use of the simpler and suggestion methods can be applied without great labour or loss of time, and does certainly answer a very excellent purpose among certain patients who are described fully in the body of this volume.”

In his paper Dr. Wilkin states that he entered upon the systematic experimental study of hypnotism with a prejudice against its employment in medicine, which experience re-

moved. He fully describes his methods, and indicates in detail the forms of disease to which hypnotic treatment is applicable. Thirty cases were treated in five months. Two only were completely, and three partially, refractory. The others passed rapidly into the somnolent condition, some becoming cataleptic.

We must call attention to Dr. Dana's paper *On Strychnia Cure of Alcoholism and the Opium Habit*. It seems to make the management of some of the most distressing cases with which physicians have to deal more hopeful. The paper thus concludes:—

“By the application of this method to alcoholics, we are able to send out many patients with hope in the future, confidence in themselves, and a staff upon which to lean in this weakness. The same treatment, when applied to patients with the morphine habit, has to be given much longer, and sometimes must be modified by adding bromides, or gradually reducing the morphine. Dr. Brown was able in one case to stop immediately the use of morphine taken to the extent of thirty grains a day. The patient did not suffer in the least.”

The volume ends with “Some Human Documents”—the Confessions of a Nervous Woman; the Autobiography of a Neurasthenic; the portraits of “two men, one of whom earned his livelihood as a ladies' maid, the other as a female cook;” and the Last Writings of a Paranoiac.

Archives of Clinical Skiagraphy. Edited by SYDNEY ROWLAND, B.A., Camb. Vol. I. No. 2. June, 1896. London: The Rebman Publishing Company. 1896.

THE number of this new publication, which lies before us, contains skiagrams and explanatory letterpress in illustration of a case of hypertrophic osteo-sclerosis of the fibula, of a case of complicated fracture of the tibia extending into the knee-joint, of an anomalous deformity of the hands and feet, and of a revolver bullet in the palm of the hand.

The collotype illustrations are very finely produced, and go far to establish the use of the new photography in its application to medicine and surgery.

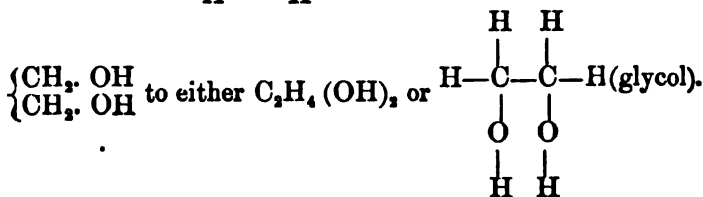
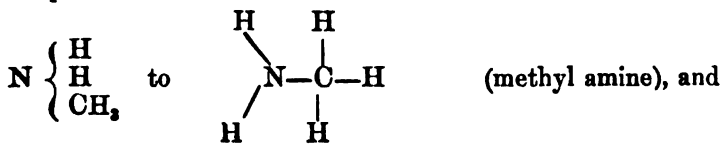
In our review of the first number of the Archives of Skiagraphy we sufficiently indicated the aims of the new publication.

Chemical Notes and Equations, Inorganic and Organic. By G. H. GEMMELL, F.I.C., F.C.S. London: Baillière, Tindall & Cox. Pp. 244.

THIS is not exactly a systematic work on chemistry. It consists rather of notes, specially intended for students of medicine, and arranged to cover the work prescribed for the First Professional Chemistry Examination of the Conjoint Board of England.

The author has used these notes in his private classes with much success for several years, and hopes that their publication will obviate the necessity of extensive note-taking on the part of students attending chemistry lectures.

We think the book is an excellent one, and well suited for the purpose for which it has been written. The fundamental principles on which the science depends are clearly, though briefly, set forth; and the more important equations connected with each body that is described—its preparation, combinations, &c.—are fully given. The constitutional formulæ of the more complicated bodies are almost always given. We could, indeed, wish that so many graphic formulæ had not been introduced. We think it is easier for a student to grasp the constitution of a body when its component radicals are shown, than when each atom is set down by itself. Thus we prefer:—



On page 85 we note—"An atmosphere containing .5 to .1 per cent. of CO_2 if inhaled for a time produces headache, and .1 per cent. is the limit allowable in living rooms." We do not see why it should be allowable to breathe an amount of CO_2 , which the same paragraph says produces headache. Ozone when heated so as to be changed into O_2 expands in volume instead of contracting, as we read on page 46. However, these are only trifling mistakes which have been overlooked.

On the whole we can warmly recommend this book to the attention of students making up chemistry for their examinations.

Royal Infirmary Cliniques. By ALEXANDER JAMES, M.D., F.R.C.P.E.; Physician to the Royal Infirmary, Edinburgh. Edinburgh: Oliver & Boyd. 1896. Pp. 167.

FEELING that it was not well that his students should have no other help in remembering the cliniques they hear besides their own (more or less imperfect) notes, Dr. James has been in the habit of publishing for the use of his class those lectures which he delivers in the Royal Infirmary. This book is a collection of these lectures, and is fittingly dedicated to the Students of the Clinical Medicine Class.

The lectures are sixteen in number and embrace a number of subjects. Each is devoted to a hospital case, and consists of a description of the case—its history and symptoms—and of remarks, explanatory and critical, thereon. The cases are vividly and well described, and Dr. James points out carefully any peculiarities or points of unusual interest in connection with them. A number of diagrams bring clearly before the eye the matters emphasised by the author.

We have read the book with pleasure and interest. Although from its nature it could not be expected to contain much that was novel, the lectures are well worth reading as models of what hospital cliniques should be. At the same time we must add, that we hope this book may not be followed by many similar successors. Lectures on individual cases in a hospital, although eminently instructive to the

students, are not usually of sufficient general importance or interest to justify their being published in a permanent form for those who have never seen the cases referred to.

Thirty-Fifth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati, for the Fiscal Year ending December 31, 1895. 1896. Pp. 235.

THE daily average of patients in the wards in 1895 was 403·3 of whom 7·7 occupied the private wards. The nationalities of the patients afford an index to the ingredients of the population of Ohio. The United States, as might have been expected, contributed most largely—1,925 males and 1,088 females, to which number 569 ("colored") males and 219 females should be added; Germany came next (388·90); then Ireland (228·94). Jerusalem, Spain, and the Ocean supplied, each, one male patient. The total was 5,221—3,600 males and 1,621 females. The most fatal diseases were pulmonary tuberculosis, which caused 93 deaths; and pneumonia, which with its complications caused 49. Small-pox had disappeared for ten years, but an epidemic occurred in 1895; 53 whites and 78 coloured persons were attacked, and 8 and 18 died—19·4 per cent. The white percentage was 14·5, the negro 24. There were 111 cases of typhoid fever treated, with 10 deaths. Over 30 pages of the Report are devoted to details of these cases, and as many to pneumonia.

In the appendix the Superintendent, Dr. Hendley, makes the following remarks on the antitoxin treatment of diphtheria:—

"No one, I think, can follow what has been written on the subject during the past six months and regard it with indifference. Certainly no one can read the calm judicial testimony of medical experts in all parts of the world—that classes of cases that formerly died do now recover, that a smaller percentage of cases die than formerly, and that severe cases now recover without need of operative interference—without wishing in his heart that such testimony is true. When men of world-wide reputation range themselves, one after the other, on the side of the new remedy, we are compelled, with all our natural scepticism, to be encouraged. The names of Virchow,

Escherich, Ganghofner, Ranke, Vierordt, all on one side, are strong testimony of themselves. In February of this year Foster collected statistics of 2,740 cases treated with anti-toxin; of these 18·5 per cent. died; also of 4,445 cases treated without antitoxin; of these 45 per cent. died."

The Practitioner: A Journal of Practical Medicine. Edited by MALCOLM MORRIS. Old Series, Vol. LVI. New Series, Vol. III. January to June, 1896. London, Paris, and Melbourne: Cassell & Company, Limited. 1896. 8vo. Pp. 694.

THIS third volume of the new series of the old-established *Practitioner* fully sustains the high reputation of its predecessors. Mr. Malcolm Morris has "made his mark" as an editor.

We have nothing but praise for the manner and the matter of this volume. A conspicuous feature is the series of beautiful and artistic engravings, representing the "Heroes of Medicine," which adorn its pages. The worthies portrayed are—Andreas Vesalius, Giovanni Battista Morgagni, Marie François Xavier Bichat, Ambroise Paré, Edward Jenner (in celebration of the centenary of vaccination), and James Lind, the Scotch physician who did so much to stay the ravages of scurvy and to prevent the prevalence of typhus.

The editor's notes on the month are as spicy and sprightly as usual, ranging over the whole field of men and manners—as Juvenal says:—

"Quicquid agunt homines,
nostri est farrago libelli."

Medical and Surgical Reports of the Boston City Hospital. Sixth Series. Edited by GEORGE B. SHATTUCK, M.D., W. T. COUNCILMAN, M.D., and H. L. BURRELL, M.D. Boston. 1895. Pp. 311.

WE note with pleasure that there is good prospect of an annual publication of Boston City Hospital Reports. In this volume there are twenty-five contributions, relating

to almost every branch of professional practice. Of these we desire to notice specially Dr. Withington's paper on Heat Prostration. It is founded upon "one hundred cases occurring in thirteen consecutive years." It seems that more cases of insolation—direct or indirect—are brought to the Boston City Hospital than of "any other accident to which the community is liable." In the period 1882–1894 a little more than a hundred cases were recorded. A few of these being rejected on account of the insufficiency of the evidence, or the incompleteness of the record, 100 remain for analysis. We briefly summarise the results.

Naturally, male patients preponderated—there were 95. The ages ranged from 70 to 19, the average being 30. Fifty-two cases occurred in the afternoon, 15 in the forenoon, 8 at noon, 1 during the night. Two to three p.m. was the period of most frequent occurrence. In two-thirds of the cases in which the origin could be ascertained direct insolation was the cause. Three women were included in the indirect cases—a cook, a dish-washer in a saloon, and one employed in a steam-laundry. "Among the men no indoor occupation proved so liable to heat-stroke as work in sugar refineries, there being five cases among this class of workmen. Iron-foundry men, bakers, stokers, stablemen, and plasterers were also overcome by heat without direct exposure to the sun's rays. A night-watchman was found unconscious in the morning in his factory, having had to make the rounds of the boiler and engine-room, dry-house, &c., in some of which the temperature was known to have been on the night in question 93°."

The highest temperature recorded was 111.5° (in the rectum). The highest of any patient who recovered was 109.5°. Of the 100 patients 28 died. All the deaths (except in two cases complicated with uræmia, whose temperature was between 103° and 104°) occurred in patients with a temperature above 105°.

The treatment in most cases consisted in a bath at 70° to 75°, to which ice was added, with the aid of the ice-cap, and frictions with lumps of ice. The use of antipyrin

and such-like drugs was tried and abandoned for the cold bath.

There is a curious paper by Dr. Bowditch on the origin of the "spots" in enteric fever—*taches bleuâtres*, with many *aliases*. They are not confined to this disease, but have been observed in "yellow fever, pleurisy, pneumonia, gonorrhœa, and also in non-febrile diseases." In 1868 Mourson, a physician in the French Navy, maintained that these discolorations are due simply to the presence of *pediculi pubis*. In 250 cases observed in various climates and of various diseases, he found the pediculi or their ova in every instance. This causation has been accepted by von Ziemssen, Strümpell, and, with slight modification, by Osler. Professor Revilliod, of Geneva, attributes the spots not to the bite, but to the excrement of the pediculus, which, being "an insect of very cleanly habits, during the night leaves his usual seat at the root of the hair and deposits its *fæces* in adjacent portions of the body. Dr. Bowditch, in 9 cases of spotting, found the pediculi. Three of these cases were enteric fever.

Medical and Surgical Reports of the Boston City Hospital.
Seventh Series. Edited by GEORGE B. SHATTUCK, M.D.,
W. T. COUNCILMAN, M.D., and HERBERT L. BURRELL,
M.D. Boston: 1896. Pp. 281.

THIS is a miscellaneous collection of papers, not a Hospital Report. Of the Boston City Hospital itself we learn only that it contains 706 beds. 206 for diphtheria and scarlet fever have been lately added. There is also a new pathological laboratory, and "a new building for surgical wards is nearly ready for occupancy."

There are twenty-three papers in the volume—one, it is almost unnecessary to say, on Appendicitis. It is difficult to realise the forlorn condition of surgeons before the extraordinary prevalence of appendicitis was discovered. In this hospital a case of a "localised inflammatory process about the appendix" is recorded under the title of "Perityphlitis" in 1882; in 1885 "Typhlitis" was reached; and in 1886 and 1887 comes "Appendicitis," which subsequently outstripped

its rivals. "In 1886, 1887, and 1888 a single case was treated in the hospital each year; in 1889 there were 7 cases, in 1890 7 cases, in 1891 31 cases, and in the year ending July 1, 1895, there were 113 cases of appendicitis, none of perityphlitis, and only one of typhlitis."

From 1880 to July 1, 1895, 402 cases of these three inflammations are recorded, with a mortality of 15·4 per cent. The mortality of all "operative" cases was 26·6, of all "unoperative" 8·0 per cent. It would seem from these figures that it would be more comfortable to be an "unoperative" case. But Dr. Blake concludes his paper thus:—

"One deduction is most obvious; it is that appendicitis is essentially surgical from the beginning; that in a considerable percentage of cases the operation is performed too late to give the patient the chance of benefiting by it, and that it is the patient's right to be placed under conditions which admit of immediate operation from the moment the diagnosis is made."

Dr. Lund contributes a paper on *Recent Advances in the Methods of Local Anæsthesia*. The subject is deserving of more attention than it has of late years received. The subcutaneous injection of cocaïn is the method advocated as effectual and safe. Dr. Corning, of New York, is credited with the discovery that hypodermic injections of solutions of cocaïn along the trunk of a sensory nerve produced anæsthesia in the parts to which it was distributed. The solutions used at first were dangerously strong (2 to 5 per cent.), and it was found that weaker solutions were preferable, as the tissues could be thoroughly infiltrated without risk. It was found that after local insensibility had been produced by cocaïn injections "the anæsthetic area could be extended by injecting pure water, beginning with the infiltrated area." Subsequently Schleich (of Berlin), demonstrated that the injection of various other drugs in very dilute solution induced local anæsthesia, and that this result was due to pressure of the infiltrated fluid on the nerve filaments. Gradually reducing the cocaïn he found "that in the white wheal produced by the injection of a syringe-ful of a two-hundredth per cent. solution of cocaïn there was absolute insensibility to pain." The experiment of omitting cocaïn

altogether naturally followed. Anæsthesia was produced, but the formation of the wheal was prohibitively painful. The same objection applies, more or less, to other substances, as sugar, potassium bromide, &c., &c. Within certain obvious limits, local anæsthesia produced by weak solutions of cocain, with a slight addition of morphin, will be found a most valuable substitute for the use of ether or chloroform by inhalation.

Pathologists will find much to interest them in the concluding paper, occupying 66 pages—*The Lesions in Selected Autopsies*.

ANTI-CHOLERA INOCULATION.

WE have received a copy of Dr. Haffkine's *Report to the Government of India*, giving a detailed statement of his proceedings in India in connection with anti-cholera inoculation—or vaccination as he seems to prefer to call it. It is yet too soon to form a final opinion upon the efficacy of Dr. Haffkine's method; which has, however, been taken up enthusiastically by some Indian Medical Officers of experience. The results of the experiment made in Gaya jail are fairly encouraging. Of 433 prisoners, 215 submitted to inoculation, after cholera had appeared in the prison. Amongst the inoculated there occurred eight cases, with three deaths; amongst the unprotected 20 cases, with 10 deaths. The Lieutenant-Governor of Bengal considered that these results justified confidence in the prophylactic; but declined to sanction "voluntary" inoculation in the Bengal jails generally. "The circumstances are different in cases where outbreaks of cholera have actually occurred, as was the case in Gaya; the Government is under an obligation to resort to any remedy which seems as hopeful as this one does to prevent the course of the disease."

CATARACT IN INDIA.

SURGEON LIEUT.-COLONEL R. MACRAE, M.B., Civil Surgeon, Gaya (Bengal), reports in the *Indian Medical Gazette*, that, in 1894, he operated on 295 unselected cases of cataract—the total number of cases under treatment in the hospital having been 341. Of his 295 cases 93·22 per cent. were successful, including nine in which there was only partial restoration of sight; 20 cases were unsuccessful, failure being due in six to suppuration, in eight to iritis, in six to other causes.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—WILLIAM THOMSON, F.R.C.S.I.

SECTION OF PATHOLOGY.

President—CONOLLY NORMAN, M.D.

Sectional Secretary—E. J. McWEENEY, M.D.

Friday, November 6, 1896.

DR. J. A. SCOTT in the Chair.

Dislocation of the Clavicle Backwards.

DR. E. H. BENNETT presented a paper on dislocation of the sternal end of the clavicle backwards, illustrated by photographs of the specimens of this injury which he had dissected—three in number—projected on the screen by lantern slides. He also detailed the facts observed in a case which he had met with in private practice in 1890, which showed the correctness of the division made by Pellioux of these injuries into the varieties, superficial and deep. He further described the method of treatment, of this case, which had proved to be completely successful in retaining the bone in place after reduction of the dislocation. He showed also a macerated fracture of the clavicle at the sternal end, in which he thought that dislocation had occurred.

PROF. NIXON observed that an interesting feature in the hunting accident case was that there was no difficulty of respiration. In these dislocations there was very often great pressure on the trachea and sometimes on the laryngeal nerves, producing recurrent spasms of so extreme a character that resection of the sternal end

of the clavicle had been recommended for their relief. As to the cause of the fracture in that case, it appeared to him that the rider must have rotated as he came down and fallen, not on the point of his shoulder but on the back of it. Did Prof. Bennett ascertain what was the position of the sternal end of the clavicle with respect to the trachea?

MR. LENTAIGNE said that, as to dislocation backwards, he remembered having seen one case, when he was a very young man, in which all efforts at reduction failed; the man went from hospital to hospital, and the dislocation remained unreduced. In that case there was no laryngeal or respiratory trouble of any kind, but a marked hollow could be seen.

MR. JAMESON JOHNSTON asked did Prof. Bennett include the fracture of the first rib in one of the specimens as part of the result of the original accident? Might not the fracture of the rib have been caused by the bending of the clavicle over it?

PROF. BENNETT, in reply, said that in more than half of the cases of this kind of fracture that were recorded in the books, there was no mention of respiratory distress. In some cases it was present in a greater or lesser degree. In a case treated by Sir Astley Cooper it was a paramount symptom, and the persistent pressure of the unreduced dislocation required the removal of the sternal end of the bone; but that was the only case in which its removal was ever performed. As to the fracture of the first rib, it was impossible to doubt, from the appearance of the specimen, that it must have been produced by the same force that caused the dislocation—namely, direct pressure backwards on the sternal end of the clavicle, which carried the cartilage of the first rib with it. The man was squeezed against some projecting piece of brick. In many recorded cases the shaft of a cart striking a man had produced a dislocation of the kind in question; and in some of these a fracture of the first rib was recorded also.

Pyonephrosis.

MR. T. MYLES exhibited and discussed specimens of the above.

DR. MCWEENEY said that about a month ago he saw a case which had some bearing on the points now raised. It was a foetus of the eighth month, the subject of a miscarriage. The delivery was attended with considerable difficulty due to the swelling of the child's abdomen. On examining the abdomen he felt at its middle line a mass of almost cartilaginous hardness, and upon opening the abdomen of the foetus, he found the urinary bladder enormously dilated, reaching up to the umbilicus, white in colour, extremely

hard, and distended to the utmost degree with urine. The two ureters were symmetrically dilated to about the size of the child's small intestine, but there was no dilatation of the pelvis of the ureters. The dilatation commenced where the narrow part of the ureter passed into the pelvis of the ureter. The two kidneys were quite unaltered. The child had an imperforate urethra. Dr. Myles had said that there was nothing in the external appearance of one of the cases which he exhibited to suggest that such an enormous amount of the kidney substance had been lost. An interesting series of experiments had lately been made upon lower animals, which went to show that after 75 per cent. of the whole weight of the kidneys had been removed, the remaining 25 per cent. not only performed the ordinary functions of the organs, but there resulted actually a hyper-secretion of urine, and a hyper-excretion of urea. The writer, who made the experiments, thought that there was an internal secretion by the kidneys which was poured into the blood, and which checked over-secretion of urine and over-excretion of urea by the kidneys themselves—in other words, that the kidneys possessed a self-regulating action. If the facts as to the lower animals had any application to man, it might explain why, in one of Dr. Myles' cases, the patient had not suffered what he might theoretically have been expected to suffer from the loss of kidney substance.

PROFESSOR NIXON said that in cases of enlarged prostate, the great difficulty was to diagnosticate the amount of secondary disease that was present. In some of these cases both the kidneys and the ureters were enormously dilated, and an enormous amount of disease was present. At the present day the fashionable operations for enlarged prostate were either castration or division of the vas deferens. The specimens now exhibited were a warning against the too precipitate adoption of either of those heroic remedies.

PROFESSOR BENNETT asked was the specific gravity of the urine taken in those cases of Mr. Myles and Dr. Johnston. According to his experience a normal specific gravity indicated a healthy kidney.

MR. MYLES, in reply, said the specific gravity of the urine was taken in both of the cases, but he was not able to state what it was. At the time it was taken the quantity of blood passed was very high. The student who took the specific gravity of the urine in the second case said it was about 1040. Professor Senn, of Chicago, had remarked that there was a danger of the operation of castration being resorted to for every possible kidney affection.

One of the patients in question would have been castrated but for the persistent hæmaturia.

Tubercle Bacillus.

DR. MCWEENEY made a communication on the biological position of the tubercle bacillus. He dealt with the results obtained by Mr. Coppen Jones, of Davos, which are in brief—"that the tubercle 'Bacillus' forms true branches, from which secondary branches may again be given off: that it forms true spores which are not identical with the unstained objects seen in ordinary bacilli from the sputum, and that in association with it club-like bodies are sometimes found. These morphological characters inclined Mr. Coppen Jones to place the organism in the neighbourhood of *Actinomyces*. Owing to the kindness of Mr. Vaughan Jennings, of the Royal College of Science, he was in a position to demonstrate Dr. Jones' preparations and photographs, which seemed to show conclusively that the tubercle bacillus was susceptible of greater complexity than was generally supposed. He briefly discussed the question as to the relation of yeasts and bacteria to the higher fungi.

MR. VAUGHAN JENNINGS, F.L.S., F.G.S., said that at first he was very sceptical as to the views of Mr. Jones, but after having stayed three months with him and studied his preparations, he became perfectly convinced that those views were well founded. He could testify as to the extreme care with which all Mr. Jones's work was done, under circumstances of great difficulty. In order to decide upon the treatment of such a disease as tuberculosis it was of primary importance to have a full and complete knowledge of the life history of the organism concerned.

The CHAIRMAN remarked that the biological position of this bacillus was a matter of great importance. The more they knew on that point the better would they be able to exterminate it from the living body. For a number of years he had been familiar with small spherical bodies which stained deeply with fuchsin, and which unexpectedly turned up in tubercular sputum. He concluded that they were spores, but of what he did not know; and for a number of years he had been teaching that whenever these bodies occurred in the sputum, the genuine tubercular bacillus, though it might not be seen at first, would be found if the search was continued long enough. He had himself found them under such circumstances, although they had been absent at first. He did not know whether those spores were spores of the tubercular bacillus or not. He had never seen them in connection with the rod forms indicated on the diagram.

DR. R. G. PATTESON said he also had observed the appearances mentioned by the chairman.

DR. McWEENEY, in reply, said his experience coincided with that of the chairman and Dr. Patteson as regarded the occurrence of those fuchsin-retaining bodies in sputum, which was suspected to be tubercular. Where these things—which had sometimes been supposed to be mere fragments of sputum—were found, the complete bacillus was generally detected afterwards.

The Section then adjourned.

Friday, December 4, 1896.

PROF. MYLES in the Chair.

Exhibits.

SIR C. NIXON exhibited the stomach and intestines of a patient who had been under his care at the Mater Misericordiæ Hospital, suffering from extreme gastric dilatation, and who had died after the onset of convulsive symptoms resembling tetany. *Post-mortem.*—The stomach was found to occupy nearly all the front of the abdomen. It contained more than two quarts of fluid. The tissues about the pylorus were much thickened, and the orifice only admitted a No. 3 catheter. Near the pylorus the cicatrix of a large ulcer was demonstrated. The small intestine was nearly empty, and part of it was extremely contracted. The large bowel showed an exaggerated rugosity of the mucous membrane.

The communication was discussed by the Chairman, Drs. Craig, Dempsey, F. A. Nixon, Travers-Smith, McWeeney, Parsons, and Coleman, and Sir C. Nixon replied.

SIR C. NIXON also exhibited the heart and thrombosed femoral vein of a man who had well-marked symptoms of tricuspid disease. *Post-mortem.*—The segments of the tricuspid valve presented enormous vegetation. The mitral and aortic valves were also affected by the endocarditis, though to a much slighter extent.

The specimens were discussed by Drs. McWeeney and Parsons, and Sir C. Nixon replied.

MR. CHANCE showed three thyroid tumours which he had recently removed by operation. The first was parenchymatous in structure. It was taken from a man, aged twenty-three, the subject of Graves's disease. The goitre caused much respiratory difficulty. The second was a colloid goitre removed from a girl, aged twenty-three, who also suffered from Graves's disease. The third was a cystic goitre.

DR. McWEENEY described the structure of the first named speci-

men. It resembled salivary gland or pancreas rather than thyroid, and to the naked eye no colloid vesicles were visible. The microscopic appearances were very noteworthy, as large areas exhibited no trace of colloid change, but looked more like ordinary secreting gland-tissue. The mode of origination of the colloid droplets, and the way in which they became surrounded by rings of epithelial cells, could be well made out. He regarded this specimen as of high theoretical importance. (Sections shown.)

Drs. Dawson, Craig, Hewitt, Travers-Smith, and the Chairman discussed the communication, and Mr. Chance replied.

PROF. NIXON said that as a proof that this disease was not confined to the human subject, he would exhibit a thyroid tumour and cyst which he removed from a sporting dog. It was on the left side of the neck. The animal succumbed after the operation. It had no exophthalmos, but manifested a remarkable condition of pulse, the beats of which occurred in groups of four double pulsations. There was no murmur in or over the tumour.

DR. McWEENEY showed slides illustrating the following conditions:—(a) Parenchymatous goitre. (b) An additional case of kidney-tumour derived from a supra-renal "rest." (c) Malignant tumour of the uterus where the microscopic diagnosis between sarcoma and carcinoma was doubtful. (d) Polymorphous-cell sarcoma of one cornu of a uterus *bicornu*. The other cornu was pregnant and hysterectomy was successfully performed by Dr. Barry at the National Lying-in Hospital.

The Section then adjourned.

SECTION OF MEDICINE.

President—GEORGE F. DUFFEY, M.D., President of the Royal College of Physicians of Ireland:

Sectional Secretary—H. C. TWEEDY, M.D., F.R.C.P.I.

Friday, November 20, 1896.

The PRESIDENT in the Chair:

Four Cases of Pityriasis Rubra.

DR. WALLACE BEATTY related four cases of Pityriasis Rubra, and discussed the connection between the affection and eczema, psoriasis, and pemphigus. In his first and third cases, eczema preceded the generalised eruption. In the second, a psoriasis-like condition first occurred, then an erysipelas-like swelling of face

with fever, and finally a general redness and exfoliation of the cuticle. Subsequently the scaling ceased, and superficial ulceration in a kind of network occurred. The patient died. The kidneys were fatty. In this case pityriasis rubra was a phase in the course of the disease. In the fourth case, still under observation, the patient, a married woman, aged forty-seven, had been subject to psoriasis of limited extent for five years. Her generalised eruption was preceded by the formation of vesicles and flaccid bullæ. Dr. Beatty regarded the general eruption as pemphigus foliaceus, terminating in pityriasis rubra. He referred to the views of Buchanan, Baxter, Pye-Smith, and Crocker, and expressed the opinion himself that, until a definite pathological or bacterial cause is discovered, it is best to base the diagnosis solely on the clinical symptoms.

DR. FINNY said the disease was of comparative rarity. The colour of the skin was a remarkable feature in the disease; but the most striking thing about it was the large scales which appeared all over the body. In 1875 he had a patient who suffered from the disease in the City of Dublin Hospital. (He exhibited the product of one night's discharge of scales from that patient.) The patient was a woman who had been in bad health, and who suffered from rheumatoid pains in her joints; and suddenly her whole body became of a bright red colour, and scales formed with great rapidity from the crown of her head to the soles of her feet; the skin under the scales was always dry, smooth, and free from cracks or fissures. Dr. Beatty's case, in which there was skin moisture, seemed to him to be a great deal more like one of eczema than of pityriasis rubra. Another case, not of so great severity as that to which he had just referred, came under his care a few years afterwards. It was that of a man of very intemperate habits, who was a chronic sufferer from psoriasis. He had albumen in the urine, and the cause of his death was alcoholism. The rise of temperature in some cases was very remarkable. In the case of the patient that died, the temperature was very high for several weeks before death. The ætiological connection between psoriasis and dermatitis exfoliativa was well illustrated by the specimens sent round. Was this disease, then, to be considered one of separate individuality, or was it part and parcel of three others—viz., eczema, psoriasis, and pemphigus? He thought they were justified in holding, with Dr. Beatty, that it was a separate disease, which might occur in any of the other three.

DR. WALTER SMITH said he had not seen more than five or six cases of the disease; and he agreed with Dr. Beatty that it was premature at present to assign to it a definite nosological position.

His own impression formed from observation was that they were entitled to recognise under the name "pityriasis rubra" a serious and generalised inflammation of the skin, which unfortunately sometimes ended in death, and the most common antecedents of which were eczema and a psoriatic state of the skin. Pemphigus and eczema were extremely common affections, and generally occupied the major part of the body; but they did not produce any serious impairment of health beyond interfering with the patient's comfort and sometimes his sleep at night. On the other hand, pityriasis rubra was a condition worthy of a special name, because it was attended with very serious constitutional symptoms, including emaciation and loss of appetite, and not unfrequently ended in death.

DR. TRAVERS SMITH quoted the opinions of Kaposi, of Vienna, on the subject of this disease.

The PRESIDENT said the questions that appeared to have arisen in the discussion were—whether this disease was a distinct one, or secondary to other affections, and what was the pathological nature of it. There were cases reported in which the disease appeared to have arisen from some injury to the skin—a wound or cut—and there were others in which its starting point appeared to have been acute general dermatitis. A large number of cases were of a distinctly rheumatic nature; and in some there were previous histories of gout and tuberculosis as having existed antecedently to the occurrence of dermatitis. It was frequently a sequel to eczema; and cases had been referred to in which persons who had been the subjects of general psoriasis suddenly—within the limits of two days—became affected with pityriasis rubra. As to the pathology of the disease, Professor Scott's observations would seem to show that it was an inflammatory disease. As to its ætiology, in a case which occurred some years ago in one of the London workhouses, and which was described by Dr. Saville, a coccus was found in the serum. In a great many other cases, however, no such organism had been detected. The peculiar severity of some of the constitutional symptoms which had been described, and the fatal termination of some of the cases, implied something very much more than mere local inflammation.

DR. WALLACE BEATTY replied.

Guaiacol in Pyrexia.

DR. DRURY read a paper on the above. He drew attention to the uses and modes of use of guaiacol, but selected the method of epidermic application recommended by Rondet in 1895, as a means

of reducing temperature, as superior to either internal administration, or by hypodermic injection. By this method, 1 to 10 minims are rubbed into the skin, previously washed, and the part covered with oiled silk. About fifty cases had been so treated. The conclusions arrived at were—(1) As a rule, no ill effects follow its use. In one case of enteric fever in a female, after the use of *m. x.* on five successive evenings, collapse occurred several hours after the fifth application; the collapse was recovered from. (2) It very rarely fails to cause a fall of temperature, the fall being greater when the temperature is high than when it is only moderate in degree. (3) The fall reaches its maximum generally about one hour after administration, and is maintained for several hours. (4) After its use the skin becomes moist, and the patient generally sleeps. (5) It does not seem to have any effect on the course of the disease which is the cause of the fever. (6) It seems to act on pyrexia, no matter what the disease may be which causes it. (7) It usually increases secretion of urine, diminishes the night sweats of phthisis, and often relieves the cough. (8) Cardiac failure appears to be the only contra-indication to its use.

A series of cases were then given in illustration—I. Female, age twenty-five; enteric fever. The application of ten minims of guaiacol on five successive evenings gave average reduction 2.5° F. II. Female, age sixteen; catarrhal pneumonia. Six daily applications of ice cloths gave average reduction of 1° , whereas eight daily applications of guaiacol (*m. x.*) gave 2.4° . III. Female, aged twenty; enteric. Ice cloths one evening reduced temperature only $.8^{\circ}$. Thirteen applications guaiacol (*m. 5.*) gave an average reduction 1.9° . IV. Female, age twenty-six; puerperal septicæmia. After six weeks' treatment guaiacol was used, and each time of use temperature fell 2° to 3° ; and after six days it reached the normal, to continue so. V. Male, age seventeen; rheumatic fever—hyperpyrexia. On fourth evening delirious; temperature at 7 50 p.m., 106° ; at 8 o'clock, 106.2° . Guaiacol (*m. 15.*) applied; temperature fell in half an hour 4.4° ; and at 9 o'clock it was 98.8° , and did not again rise till following evening, viz., to 101.8° . VI. Male, age twenty-one, variola, arising in patient desquamating from scarlet fever. On first evening temperature 104° , guaiacol (*m. x.*) reduced temperature in one hour to 101.2° , in two hours to 100° . Second day, temperature 105.4° , guaiacol (*m. x.*) reduced it to 104.2° ; ice cloths had no effect. Next day variola eruption appeared. VII. Male, age seven; semi-malignant scarlet fever, purple rash, mild delirium; temperature 105° ; guaiacol (*m. 8.*) caused fall of 3 degrees in one hour, followed

by sleep with cessation of delirium. VIII. Male, aged forty, facial erysipelas, great delirium. The average reduction of temperature one hour after the application of m. x. guaiacol on five evenings was 2.8 degrees. IX. Female, age twenty-five, enteric. Sponging on two successive nights gave no result, or an absolute rise as tested half-hourly. Guaiacol on two following nights gave fall of over two degrees in one hour.

Most of the cases were used merely as test cases, the drug not being used as an ordinary line of treatment. Its routine use was not recommended, but for exceptional cases, where temperature in itself a danger, it is considered in most cases safe as well as a simple and pretty certain method of reducing temperature.

DR. CRAIG referred to charts of three enteric patients in which the drug had been used on occasions when the temperature became high; a marked fall followed in each case, and that without any injurious effects. He stated that it seemed to him that the drug acted by producing perspiration, and that it was the evaporation that caused the reduction of temperature. Until they knew more, however, about the temperature centres of the spinal cord they could not come to a certain conclusion on this point.

DR. JOHN W. MOORE said that if Dr. Craig's explanation of the action of the drug were correct they could not look forward with confidence to its effect as a reducer of hyperpyrexia in acute rheumatism. He (Dr. Moore) would enter an emphatic protest against indiscriminate attempts to reduce temperature, especially in typhoid fever. The more he saw of typhoid the more satisfied he was that reduction of temperature in that disease was, *per se*, by no means the *summum bonum*. He had long since given up the use of phenazone or antipyrin, phenacetin, and acetanilide as reducers of temperature in typhoid fever. They were useful for relieving headache and some other symptoms of the disease; but their use as reducers of temperature was positively dangerous, and he saw no reason why guaiacol, used either epidermically or endermically, should differ very much in its action from that of those drugs. The effects of the drug in pulmonary consumption were altogether different from its operation in the other cases. Its effects when given internally in pulmonary consumption were not so immediate and extreme as when it was used epidermically, and rather depended upon its antiseptic properties and its power of reducing the septicæmic conditions of that disease.

DR. O'CARROLL said he had used guaiacol in phthisis, and only hypodermically, with the result of always reducing temperature, and without collapse. He performed the hypodermic application

because they could measure the drug more accurately than in the case of the endermic method. In his cases the temperature never fell below the normal, or a little above the normal point. In one case of phthisis, a young girl came into the Whitworth three times in a state of hectic, improved under guaiacol, put up a few pounds of flesh, and went out in a fortnight. The case, however, was very far from being cured, and was only improved to the extent of a slight diminution in the crepitation and the amount of expectoration. It was not given in cases of the earlier catarrhal signs, because there was no urgency.

DR. WALTER SMITH said the results put forward by Dr. Drury were very singular, and might excite incredulity if not astonishment. The statement that a few minims of this drug rubbed into the skin could reduce temperature within an hour implied two things—viz., that the drug was absorbed, and that it produced a remarkable effect on the interior tissues of the body. He would confine his remarks to the pharmacology of guaiacol. The fact that it was capable of free administration in the ways described proved that it was comparatively non-irritant; and yet it was closely related to the phenols and other members of the carbo-lic acid group. How then did it come about that, whilst they dare not rub the poisonous carbo-lic acid into the surface, they could do so with guaiacol, which was the chief representative of the creasote group, and find it comparatively harmless? For a number of years creasote and carbo-lic acid were confounded by chemists. It was now known that carbo-lic acid was a phenol. It was equally well known that guaiacol was a methyl derivative of one of the phenols. This raised the question—How far was physiological action related to chemical constitution? Speaking generally, it may be stated the introduction of OH (hydroxyl) into any of the complex organic group of the aromatic series increased the poisonous powers of the compound, while the introduction of a methyl molecule seemed to have the opposite effect—viz., a tendency to mitigate its toxicity.

The PRESIDENT said the outcome of the discussion seemed to be that they had got a drug which was not only very useful but also very dangerous. Dr. John W. Moore had said that reduction of temperature was not a *sumnum bonum* in enteric fever. Perhaps what he meant was that it was not advisable in enteric fever to reduce temperature by depressing drugs. He (President) had reduced temperature with guaiacol in one or two cases with good effect. In one case of enteric fever, the patient's temperature being at 105.4°, fifteen minims of guaiacol were rubbed into his axilla, and in half an hour he was in a state of profound collapse, his

temperature having fallen to 96°; he became almost pulseless; and it was only by the administration of stimulants and the application of warmth that he was rallied. He need not say that in that case the drug was not used again. Perhaps the dose was too large. But it should be noted that in that case the patient had a weak heart. It had been said that the drug acted by producing perspiration. But it had also been stated that it was a powerful vasomotor constrictor. If that were so, its action might be mechanical. It was also an anæsthetic, and had been frequently used for the relief of pleuritic and neuralgic pains. The hypodermic injection of guaiacol had been followed by most alarming collapse.

DR. DRURY replied.

The Section then adjourned.

Friday, December 18, 1896.

The PRESIDENT in the Chair.

Widal's Method of Typhoid Diagnosis.

DR. McWEENEY gave a demonstration of Widal's method of typhoid diagnosis. The apparatus he used was a Pasteur pipette, consisting of two wide parts separated by a very narrow one. The end intended for aspiration was plugged with cotton wool and the other end was drawn out to a fine capillary point; and the whole pipette sterilised. He generally sterilised the finger of the patient from which the blood was to be drawn. The skin was prodded with a lancet needle, and the drawn out end of the pipette having been snapped with a sterilised forceps was introduced into the drop of blood. A sufficient amount to fill the tube was easily obtained by pressure and aspiration; and then both ends of the tube were fused and thus hermetically sealed. Conditions necessary for success in the diagnosis were, that the cultivations should be pure, typical, and young. The most important characteristic was mobility of the bacilli; and when serum taken from a typhoid patient was added an almost instantaneous agglutination was seen through the microscope, large masses of bacilli becoming stuck together, in which the outlines of the individual bacilli were hardly distinguishable. In some cases all the bacilli appeared to be massed together. In other cases of equally undoubted typhoid type a considerable number of individual bacilli—even a large minority—remained pursuing their motions between the agglomerated masses. They seemed to be attracted by some force, as it were, to the

massed collections. If the serum was not that of a typhoid patient, the bacilli were seen wagging about amongst the blood corpuscles; and a swaying movement of the latter could be seen, occasioned by their contact with the bacilli. The blood of the typhoid patients agglutinated and paralysed the bacilli, and the blood of the non-typhoid patients did not. Dr. Johnston of Montreal adopted a different process in applying the test—viz., by taking the drop of blood on a sheet of sterilised paper, and afterwards dissolving the scrapings of the drop in water, which he then tested. It might be alleged that the blood of persons not suffering from typhoid might cause the bacilli to be agglomerated; but he had made the experiment with the blood of as many diseases as possible—scarlatina, pneumonia, before and after the crisis, synovitis, phthisis, and a number of other diseases—and had placed blood from them in contact with typhoid bacilli, and the typhoid bacilli exhibited no alteration in their mobility. It might also be objected that bacilli which were not typhoid might become agglutinated if mingled with the serum of a typhoid patient. But he had found that non-typhoid organisms having active mobility exhibited no alteration whatever in their movements when brought into contact with typhoid serum.

DR. COLEMAN said that he tested the blood of 11 typhoid patients on 20 different occasions, and in every case there was immediate "clumping" of the bacilli, with loss of mobility. In one case a few bacilli remained mobile for five minutes, though the clumping was very obvious. The age of the patients varied from 9 to 30 years, and the cases varied from mild to severe; whilst the dates of their illness included from the beginning of the second week to advanced convalescence. One patient gave the reaction when the temperature had been for 18 days normal. He tested the blood of 3 healthy persons; and also that of persons suffering from acute croupous pneumonia, rheumatic fever, gonorrhoeal synovitis, measles, scarlatina, and phthisis, and in none of these cases did the bacilli lose their motion or become agglomerated. The method which he adopted in the greater number of cases was to obtain a drop of blood from the patient's finger; to touch the blood with a clean coverglass; and then with a sterilised platinum loop to convey a few drops of the broth culture to the coverglass, to mix the blood and the culture on the coverglass with the platinum loop, and to examine immediately under a high power. In that way it was possible to examine 3 or 4 cases in a quarter of an hour in the hospital ward.

DR. DEMPSEY said he had been concerned in the trial of this

method in 18 cases. Of these 14 were presumably typhoid; and in 12 of them there was instant reaction, and agglutination rapidly followed.

Concurrent Scarlatina and Enteric Fever.

DR. E. MACDOWEL COSGRAVE read a paper on this subject.

In 1859 Murchison wrote saying that no cases have hitherto been published showing the possibility of scarlatina and enteric co-existing; but some years afterwards, in his work on Fevers, he mentioned that he had seen eight cases in which the two rashes co-existed; two of these cases he gives in detail; in each the scarlatina eruption came out in the third week of enteric—most of the other cases of co-existence recorded by other observers of scarlatinal infection being taken during the progress of enteric.

True co-existence of incubation stages has been recorded by Dr. S. A. E. Griffiths in 1893, and by Drs. Caiger, Payne, and Ed. Carmichael in 1894.

The five cases dealt with in this paper were in Cork-street Fever Hospital, Dublin, in 1895 and 1896, four being under treatment at the same time. All were cases of well-marked enteric, and all had well-marked scarlatina followed by free general desquamation. In four of the cases the incubation stages co-existed, the scarlatinal infection being secondary to the enteric, so that the invasions were almost simultaneous, the earlier prominent symptoms being those of scarlatina, the rose spots developing on the 13th, 10th, 8th, and 9th days respectively. In the fifth case the invasion of enteric occurred on the 10th day of scarlatina, so that the scarlatina infection was simultaneous with, if not earlier than, the enteric infection.

The co-existence of the diseases, so far from increasing the severity of the symptoms, had rather a mitigating effect; severe scarlatina quickly became mild, and the enteric, though at first severe, tended to abort at the end of the second week.

Enteric Fever without Intestinal Lesions.

DR. WALLACE BEATTY related the history of two fatal cases of enteric fever. [It will be found at page 97.]

Desquamation in Enteric Fever.

DR. NINIAN FALKNER read a Clinical Note on Desquamation in Enteric Fever. [It will be found at page 101.]

DR. JOHN W. MOORE said he remembered seeing, with Dr. Pollock, a case of enteric fever which suddenly developed scarlatini-

form symptoms. When he first saw the patient he was covered from head to foot with a bright vivid scarlet rash. They concluded that he had not scarlatina, and that turned out to be so, the rash being only that scarlatiniform one which sometimes developed after three weeks of typhoid fever. Very often in cases of the kind, owing to the great determination to the skin, there was a destruction and a shedding of the cuticle, and a copious desquamation—he had seen it more than once in cases of typhoid. In the later stages of scarlatina he had seen certain papules developing on the skin which were exceedingly like the rose spots in typhoid; but the cases ran so short a course that the suggestion was that they were from beginning to end cases of scarlatina. He would ask Dr. Cosgrave did he try Ehrlich's test?

DR. DEURY said he saw one of Dr. Cosgrave's cases, and he had no doubt that it was enteric fever with concurrent scarlatina. The child had for some time well-marked enteric symptoms, and then undoubtedly the classical symptoms of scarlatina came on. The scarlatina symptoms subsided, leaving a medium degree of temperature for the rest of the fever, during which all the classical enteric symptoms remained.

DR. GUNN said that twelve years ago Dr. Stannus Hughes, who was then physician to the Lord Lieutenant's household, sent to him (Dr. Gunn), at Steevens' Hospital, a stable boy of 16 or 17 years of age. Scarlatina was prevalent at the time, and the boy had very well marked symptoms of it—in fact, there was no possible doubt that it was a pretty severe case of scarlatina. The disease ran favourably; and then instead of convalescing in the usual way the patient developed symptoms of enteric fever. These became pretty severe, and the case ran through as one of marked enteric fever. During that enteric period he desquamated freely; and there could be no doubt that he had the two diseases concurrently.

DR. DAY said it was not possible to deny that a patient could have two epidemic diseases at the same time. He remembered a case in which there was both typhus and typhoid; and another case of a girl who first had measles, which passed off; and she afterwards had a severe attack of typhoid with subsequent relapse. Some years ago he had a case of a lad who was sent to him from a hotel. He had thick desquamation after scarlatina, and through it could be seen the rash of typhus. He ran through a well-marked attack of spotted typhus. He had been treated in a ward where typhus fever was present. Another case was that of a girl who had been treated for scarlatina in Galway Union hospital. Before her skin had fully peeled off she came home to spend her con-

valescence at the Circular-road, and after three days was sent to his hospital with a maculated typhus rash upon her; and her skin continued to peel whilst she was running through the typhus course. He remembered another case of a child who had three diseases. First she had measles, and through the measles eruption could be seen a scarlatina rash, whilst her throat was covered with diphtheritic exudation. After all that had passed away she ran through an ordinary typhoid course. She got well; and came back two years afterwards amongst a batch of 30 girls from the same institution, suffering from scarlatina. They never thought she had scarlatina before. What she had first he did not know. As to Dr. Beatty's case, he did not see on what he based his diagnosis of typhoid fever. Leaving out bacteriological examination, he did not see how typhoid was practically to be diagnosticated save by the method of exclusion. As to peeling after typhoid, if the patient remained long enough in bed the skin would peel. He had a case of typhoid in which the man could not walk from the peeling of skin on his feet, and another of a child with tubercular disease whose skin was peeling.

DR. MONTGOMERY asked what was the earliest period in enteric fever in which Widal's method would give the characteristic reaction.

DR. BOYD said that if Widal's method should continue to give as satisfactory results as it had done up to the present in typhoid cases it would prove a safe and satisfactory means of distinguishing between typhoid and many affections that simulated it. In influenza epidemic cases the temperature sometimes continued up for days and weeks, and in cases which appeared to be mild typhus, Widal's method, if applied, would at once settle the question. Dr. McWeeney had tried the method in influenza cases, and no reaction had followed. In a case which Dr. McWeeney examined for him at the Mater Misericordiæ Hospital, and which was first regarded as a case of influenza, but in which the man had had typhoid two years before, the blood was taken after he had been four days ill and showed distinct agglomeration of the bacilli.

DR. BEWLEY and DR. KNOTT also made some observations.

DR. MCWEENEY then replied. He believed it was a development of antitoxic material in the blood which caused the agglutination of the bacilli. The more virulent the typhoid cultures of bacilli were the less would be the degree of mobilisation and agglutination obtained with definite samples of typhoid serum. Hence it was not a question of absolute but of relative anti-toxicity. Typhoid bacilli, it would be recollected, were not in the circulating medium, but were

confined to the spleen and the mesenteric glands for the most part so that any large quantity of anti-toxin would not come to bear on them. As to Dr. Wallace Beatty's cases he would ask were the bacilli *Bacterium coli commune*, or were they proved to be typhoid bacilli?—because it was well known that after the death of the patient the *Bacterium coli commune* began to emigrate, especially in warm weather, from the bowel, and got into the spleen, liver, kidneys, and peritoneal exudation, and even into the heart, and presented such a strong resemblance to the typhoid bacillus that it was difficult to distinguish from it. He did not question Dr. Beatty's diagnosis, but would like to know what precaution taken?

DR. BEATTY said the bacilli in his case were typhoid beyond sea or nay.

DR. COSGRAVE also replied.

DR. FALKNER, in reply, said desquamation did not usually result from lying in bed.

The Section then adjourned.

THE BATTLE OF THE CLUBS.

UNDER this title *The Lancet* has re-published in pamphlet (or small book) form the Reports of its Special Commissioner "appointed to enquire into Medical Aid Societies;" and we have been favoured with a copy. It opens with a brief history of the Cork struggle, which has resulted in the formation, by the medical men of the city, of a benefit club managed entirely by themselves; and successfully. It would seem that the three imported gentlemen who accepted the club appointments vacated by the Cork men, are the only obstacles to reconciliation. The clubs could not, in honour, dismiss them; the "medical men would listen to no scheme of compromise which admitted them to fellowship with their brethren. We note in our English report that the club 'doctor' is expected to supply dark medicine with a strong taste, preferably of peppermint. Something warming and comforting is required, so that when any friends call at the patient's house he can offer them a glass of his medicine. In one collier village in Lancashire the club subscription for men has been reduced from the exorbitant figure of 4s. a year to 3s. 6d., for advice and comforting medicine. In this place there is one female club, each woman paying 3s. 6d. and getting, no doubt, 'full value for her money' in peppermint-water coloured with burnt sugar."

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For five Weeks ending Saturday, January 2, 1897.

THE deaths registered in each of the five weeks in the sixteen principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending					Towns	Weeks ending				
	Dec. 5	Dec. 12	Dec. 19	Dec. 26	Jan. 2		Dec. 5	Dec. 12	Dec. 19	Dec. 26	Jan. 2
Armagh -	21.0	0.0	35.1	56.1	21.0	Limerick -	19.6	14.0	18.2	19.6	26.7
Belfast -	30.1	29.7	25.6	27.8	35.7	Lisburn -	4.3	12.8	17.0	8.5	25.7
Cork -	27.7	29.8	28.4	28.4	50.5	Londonderry	12.6	15.7	20.4	28.3	33.0
Drogheda -	22.0	26.4	22.0	18.2	8.8	Lurgan -	18.2	27.4	18.2	18.2	31.9
Dublin -	28.8	25.7	26.4	26.0	48.1	Newry -	4.0	24.1	24.1	20.1	32.2
Dundalk -	20.9	12.6	8.4	8.4	37.7	Sligo -	16.2	10.2	25.4	10.2	20.3
Galway -	30.2	15.1	11.3	3.8	34.0	Waterford -	29.0	29.0	22.5	15.0	20.0
Kilkenny -	9.4	18.9	18.9	9.4	42.5	Wexford -	18.1	4.5	4.5	18.1	18.5

In the week ending Saturday, December 5, 1896, the mortality in thirty-three large English towns, including London (in which the rate was 18.9), was equal to an average annual death-rate of 19.4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20.4 per 1,000. In Glasgow the rate was 21.2. In Edinburgh it was 18.1.

The average annual death-rate represented by the deaths registered during the week in the sixteen principal town districts of Ireland was 26.8 per 1,000 of the population, which, for the purposes of this Return, is estimated at 908,567.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2.4 per 1,000, the rates varying from 0.0 in six of the districts to 5.0 in Waterford—the

8 deaths from all causes registered in that district comprising 1 from enteric fever and 1 from diarrhoea. Among the 160 deaths from all causes registered in Belfast are 5 from measles, 5 from scarlatina, 3 from whooping-cough, 2 from enteric fever, and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 219—120 boys and 99 girls; and the registered deaths to 198—105 males and 93 females.

The deaths, which are 9 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 29·5 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 28·8 per 1,000. During the forty-nine weeks of 1896, ending with Saturday, December 5, the death-rate averaged 24·4, and was 2·5 under the mean rate in the corresponding period of the ten years 1886–1895.

The number of deaths from zymotic diseases registered was 22, being equal to the average for the corresponding week of the last ten years, but 2 under the number for the previous week. The 22 deaths comprise 4 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 7 from whooping-cough, 4 from enteric fever, and 2 from erysipelas.

Thirteen cases of enteric fever were admitted to hospital, being 2 over the admissions in the preceding week, but 5 under those in the week ended November 21. Nineteen enteric fever patients were discharged, 2 died, and 82 remained under treatment on Saturday, being 8 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 52, being 2 under the admissions in the preceding week: 58 patients were discharged, 5 died, and 328 remained under treatment on Saturday, being 2 under the number in hospital on that day week. Included in this number are 22 convalescents in the Beneavin Convalescent Home, Glasnevin.

Twenty-five cases of measles were admitted to hospital against 13 in the preceding week, and 18 in the week ended November 21. Sixteen patients were discharged, and 41 remained under treatment on Saturday, being 9 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had risen from 55 in the week ended November 21 to 58 in the following week, fell to 48, but this number is 2 in excess of the average for the corresponding week of the last ten years. The 48 deaths comprise 29 from bronchitis, 12 from pneumonia, and 7 from croup.

In the week ending Saturday, December 12, the mortality in thirty-three large English towns, including London (in which the rate was 18·1), was equal to an average annual death-rate of 18·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 20·7 per 1,000. In Glasgow the rate was 21·9, and in Edinburgh it was 17·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 25·0 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 3·1 per 1,000, the rates varying from 0·0 in ten of the districts to 5·3 in Belfast—the 158 deaths from all causes registered in that district comprising 10 from measles, 6 from scarlatina, 6 from whooping-cough, 1 from diphtheria, 4 from enteric fever, and 1 from diarrhoea. Among the 43 deaths in Cork are 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 195—85 boys and 110 girls; and the registered deaths to 173—81 males and 92 females.

The deaths, which are 22, under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 25·8 in every 1,000 of the population. Omitting the death of one person admitted to hospital from without the district, the rate was 25·7 per 1,000. During the fifty weeks of 1896 ending with Saturday, December 12, the death-rate averaged 24·5, and was 2·5 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-three deaths from zymotic diseases were registered, being 1 over the number in the preceding week, and 2 in excess of the average for the 50th week of the last ten years. They consist of 10 from scarlet fever (scarlatina), 1 from influenza, 4 from whooping-cough, 2 from diphtheria, 2 from enteric fever, 3 from diarrhoea, and 1 from erysipelas.

The number of cases of enteric fever admitted to hospital was 6, being 7 under the admissions in the preceding week, and 5 under the number admitted in the week ended November 28. Twenty-one enteric fever patients were discharged, 1 died, and 66 remained under treatment on Saturday, being 16 under the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had fallen from 54 in the week ended November 28 to 52 the following week, declined to 34. Forty-six patients were discharged, 7 died, and 309 remained under treatment on Saturday, being 19 over the number in hospital on that day week. This

number includes 22 convalescents in the Beneavin Convalescent Home, Glasnevin.

The cases of measles admitted to hospital amounted to 39, being 14 in excess of the admissions in the preceding week and 26 over those in the week ended November 28. Thirteen patients were discharged, and 67 remained under treatment on Saturday, being 26 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered was 39, being 13 below the average for the corresponding week of the last ten years, and 9 under the number for the previous week. The 39 deaths comprise 23 from bronchitis and 12 from pneumonia.

In the week ending Saturday, December 19, the mortality in thirty-three large English towns, including London (in which the rate was 17·2), was equal to an average annual death-rate of 18·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·0 per 1,000. In Glasgow the rate was 23·5, and in Edinburgh it was 21·1.

The average annual death-rate represented by the deaths registered in the sixteen principal town districts of Ireland was 25·5 per 1,000 of the population.

The deaths from the principal zymotic diseases in the sixteen districts were equal to an annual rate of 2·5 per 1000, the rates varying from 0·0 in ten of the districts to 8·1 in Newry—the 6 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 152 deaths from all causes registered in Belfast are 5 from measles, 2 from scarlatina, 5 from whooping-cough, 1 from enteric fever, and 3 from diarrhoea. The 41 deaths in Cork comprise 1 from each of the following—typhus, enteric fever, and diarrhoea.

In the Dublin Registration District the registered births amounted to 169—80 boys and 89 girls; and the registered deaths to 183—91 males and 92 females.

The deaths, which are 11 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 27·3 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 26·4 per 1,000. During the first fifty-one weeks of 1896 the death-rate averaged 24·5, and was 2·5 under the mean rate in the corresponding period of the ten years 1886-1895.

Twenty-five deaths from zymotic diseases were registered, being 2 over the number in the preceding week, and 1 in excess of the average for the 51st week of the last ten years. The 25 deaths comprise 5 from scarlet fever (*scarlatina*), 1 from typhus, 1 from influenza, 12 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 1 from erysipelas.

Seven cases of enteric fever were admitted to hospital, being 1 over the admissions in the preceding week, but 6 below those in the week ended December 5. Ten enteric fever patients were discharged, 1 died, and 62 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week.

The number of cases of *scarlatina* admitted to hospital was 33, being 1 under the admissions in the preceding week: 58 patients were discharged, 3 died, and 279 remained under treatment on Saturday, being 30 under the number in hospital on that day week. Twenty convalescents in the Beneavin Convalescent Home, Glasnevin, are included in this number.

Forty-four cases of measles were admitted to hospital against 39 in the preceding week and 23 in the week ended December 5. Twenty-five patients were discharged, and 86 remained under treatment on Saturday, being 19 over the number in hospital at the close of the preceding week.

Fifty-four deaths from diseases of the respiratory system were registered, being 10 above the average for the corresponding week of the last ten years, and 15 over the number for the preceding week. The 54 deaths comprise 38 from bronchitis and 13 from pneumonia.

In the week ending Saturday, December 26, the mortality in thirty-three large English towns, including London (in which the rate was 15·1), was equal to an average annual death-rate of 17·0 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·1 per 1,000. In Glasgow the rate was 26·0, and in Edinburgh it was 18·1.

The average annual death-rate in the sixteen principal town districts of Ireland was 24·9 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the sixteen districts were equal to an annual rate of 2·6 per 1,000, the rates varying from 0·0 in ten of the districts to 3·6 in Belfast—the 148 deaths from all causes registered in that district comprising 6 from measles, 3 from *scarlatina*, 3 from whooping-cough, 3 from diphtheria, 3 from enteric fever, and 1 from diarrhoea. Among

the 41 deaths from all causes registered in Cork are 1 from typhus, 1 from whooping-cough, and 2 from enteric fever.

In the Dublin Registration District the registered births amounted to 92—49 boys and 43 girls; and the registered deaths to 178—85 males and 93 females.

The deaths, which are 35 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 26·5 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 26·0 per 1,000. During the fifty-two weeks of 1896, ending Saturday, December 26, the death-rate averaged 24·5, and was 2·6 under the mean rate in the corresponding period of the ten years 1886–1895.

Twenty-seven deaths from zymotic diseases were registered, being 2 over the number for the preceding week, and 4 in excess of the average for the fifty-second week of the last ten years. The 27 deaths comprise 2 from measles, 3 from scarlet fever (scarlatina), 2 from influenza and its complications, 15 from whooping-cough, 1 from ill-defined fever, and 1 (in the Richmond District Lunatic Asylum) from beri-beri.

Only 3 cases of enteric fever were admitted to hospital against 7 admissions in the preceding week. Fourteen enteric fever patients were discharged, and 51 remained under treatment on Saturday, being 11 under the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 23, being 10 under the admissions in the preceding week. Fifty-eight patients were discharged, 2 died, and 239 remained under treatment on Saturday, being 40 under the number in hospital at the close of the preceding week. This number includes 17 convalescents in the Beneavin Convalescent Home, Glasnevin.

The cases of measles admitted to hospital amounted to 36 against 44 in the preceding week: 12 patients were discharged, 4 died, and 106 remained under treatment on Saturday, being 20 over the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 52, being 2 under the number for the preceding week, and 3 below the average for the fifty-second week of the last ten years. The 52 deaths comprise 37 from bronchitis and 13 from pneumonia.

In the week ending Saturday, January 2, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 20·8), was equal to an average annual death-rate of 22·3

per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·4 per 1,000, that for Glasgow being 23·7, and that for Edinburgh 22·2.

The average annual death-rate in the sixteen chief Irish towns was 38·2 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the 16 urban districts were equal to an annual rate of 4·8 per 1,000, the rates varying from 0·0 in eight of the districts to 8·1 in Newry—the 8 deaths from all causes registered in that district comprising 1 from whooping-cough and 1 from enteric fever. Among the 195 deaths from all causes registered in Belfast are 8 from measles, 2 from scarlatina, 6 from whooping-cough, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 2 from diarrhoea. The 73 deaths in Cork comprise 2 from measles, 2 from whooping-cough, 1 from enteric fever, and 2 from diarrhoea. The 21 deaths in Londonderry comprise 1 from scarlatina and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 298—144 boys and 154 girls; and the registered deaths to 296—137 males and 159 females.

The deaths, which are 83 over the average number for the last week of the preceding ten years, represent an annual rate of mortality of 44·1 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 43·1 per 1,000. During the fifty-three weeks ending with Saturday, January 2, 1897, the death-rate averaged 24·9, and was 2·2 under the mean rate for the ten years 1886–1895.

Forty-two deaths from zymotic diseases were registered, being 15 over the number for the preceding week, and 19 above the average for the last week of the ten years 1886–1895. The 42 deaths comprise 1 from chicken-pox, 5 from measles, 1 from scarlet fever (scarlatina), 1 from influenza, 23 from whooping-cough, 3 from enteric fever, and 4 from diarrhoea.

Eleven cases of enteric fever were admitted to hospital against 3 admissions in the preceding week. Twelve enteric fever patients were discharged, and 50 remained under treatment on Saturday, being 1 under the number in hospital on Saturday, December 26.

The number of cases of scarlatina admitted to hospital was 21, being 2 under the admissions in the preceding week. Forty-nine patients were discharged, 1 died, and 216 remained under treatment on Saturday, being 23 under the number in hospital on that day week. This number includes 23 patients in Beneavin Convalescent Home, Glasnevin.

The cases of measles admitted to hospital, which had fallen from 44 in the week ended December 19 to 36 in the following week, rose to 99. Thirty-nine patients were discharged, 4 died, and 162 remained under treatment on Saturday, being 56 over the number in hospital at the close of the preceding week.

Seven cases of typhus were admitted to hospital, and 14 patients remained under treatment at the close of the week.

Sixty-six deaths from diseases of the respiratory system were registered, being 11 in excess of the average for the last week of the ten years 1886-95, and 14 over the number for the previous week. The 66 deaths comprise 39 from bronchitis and 20 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of December, 1896.

Mean Height of Barometer, -	-	-	29.702 inches.
Maximal Height of Barometer (on 27th, at 9 a.m.), -	-	-	30.301 „
Minimal Height of Barometer (on 6th, at 9 a.m.),	-	-	28.784 „
Mean Dry-bulb Temperature, -	-	-	40.8°.
Mean Wet-bulb Temperature, -	-	-	39.3°.
Mean Dew-point Temperature, -	-	-	37.4°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	-	-	.227 inch.
Mean Humidity, -	-	-	88.2 per cent.
Highest Temperature in Shade (on 26th), -	-	-	57.6°.
Lowest Temperature in Shade (on 18th & 20th),	-	-	27.0°.
Lowest Temperature on Grass (Radiation) (on 18th), -	-	-	24.1°.
Mean Amount of Cloud, -	-	-	63.2 per cent.
Rainfall (on 20 days), -	-	-	4.185 inches.
Greatest Daily Rainfall (on 8th), -	-	-	1.388 „
General Directions of Wind, -	-	-	W., S.E., N.W.

Remarks.

A generally unsettled, open, rainy month. The only severe frost experienced in the British Islands occurred between the 15th and 20th. It was most severe in Central Ireland, where the thermometer in the screen sank, on the morning of Sunday, the 20th, to 18° at Markree Castle, Co. Sligo, 16° at Parsonstown, King's Co., and 14° at Edenfel, Omagh, Co. Tyrone. The distribution of

atmospheric pressure was almost exclusively cyclonic, and the variations in the height of the barometer were abrupt and rapid. The chief depressions observed appeared at the mouth of the English Channel, up which they usually travelled in an irregular fashion, causing downpours of rain and violent gales in the South of England and North of France. In the closing period of the month, vast depressions skirted our extreme N.W. and N. coasts on their way to Northern Europe, and, as in 1895, a remarkable wave of warmth passed over Western Europe.

In Dublin the arithmetical mean temperature (41.4°) was a shade above the average (41.3°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 40.8° . In the thirty-one years ending with 1895, December was coldest in 1878 (M. T. = 32.8°), and in 1874 (M. T. = 36.8°), and warmest in 1865 (M. T. = 46.2°). In 1895, the M. T. was 41.6° .

The mean height of the barometer was 29.702 inches, or 0.173 inch below the corrected average value for December—namely, 29.875 inches. The mercury rose to 30.301 inches at 9 a.m. of the 27th, and fell to 28.784 inches at 9 a.m. of the 6th. The observed range of atmospheric pressure was, therefore, 1.517 inches—that is, a little more than one inch and a half.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 40.8° , or 1.5° below the value for November, and 3.0° below that for October, 1896. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times .52)$, the value was 41.6° , or 0.1° above the average mean temperature for December, calculated in the same way, in the twenty-five years, 1865–89, inclusive (41.5°). The arithmetical mean of the maximal and minimal readings was 41.4° , compared with a twenty-five years' average of 41.3° . On the 26th the thermometer in the screen rose to 57.6° —wind, S.W.; on the 18th and again on the 20th the temperature fell to 27.0° —wind, W.N.W. The minimum on the grass was 24.1° , on the 18th. There were only 5 days of frost in the screen, but 23 days of frost on the grass.

The rainfall was 4.185 inches, distributed over as many as 20 days. The average rainfall for December in the twenty-five years, 1865–89, was 2.404 inches, and the average number of rainy days was 16.9. Both rainfall, therefore, and rainy days were considerably above the average. In 1876 the rainfall in December was very large—7.566 inches on 22 days. In 1872, 4.932 inches fell on as many as 24 days; and in 1868 (which was otherwise a fine and dry year), 4.749 inches fell on as many as 27 days. On the other hand, in 1867, only .771 inch

was measured on 13 days ; in 1892, only .795 inch on 10 days ; and in 1871, only .797 inch on 15 days. In 1885, only .742 inch of rain was measured on but 10 days ; but in 1895 the rainfall was 3.944 inches on 27 days.

Solar halos appeared on the 4th, 13th, and 14th ; a lunar halo on the 23rd. High winds were noted on 12 days, but attained the force of a gale on only 2 occasions—the 26th and 30th. The atmosphere was more or less foggy in Dublin on the 4th, 5th, 11th, 13th, 20th, 22nd, and 23rd. No snow or sleet fell in Dublin. Hail fell on the 9th and 18th. Aurora borealis was seen on the 3rd.

A succession of very large and deep depressions began to approach the S.W. of both Ireland and England from the Atlantic on Tuesday, the 1st. The sky became densely clouded, temperature rose, and squally S.E. and S. winds set in accompanied by heavy falls of rain in all districts. At 8 a.m. of Friday the centre of a depression lay near the Scilly Isles, where the barometer was down to 28.69 inches. In the evening of this day the reading at Jersey was 28.32 inches. On Saturday pressure remained very low, but as gradients became less steep the gales died down. Bright aurora borealis was seen on Thursday evening in Scotland and Ireland. In Dublin the barometer fell to 28.322 inches at 9 p.m. of Saturday (wind calm). The sheltered thermometer rose to 51.8° on Thursday, and fell to 36.1° on Friday. The prevailing wind was S.E. Rainfall amounted to 1.220 inches on four days, .730 inch being registered on Friday.

The weather was very unsettled during the greater part of the week ended Saturday, the 12th, and rain fell in large quantities—the downpour in the night of Tuesday, the 8th, being particularly heavy on the east coast of Ireland near Dublin. On Sunday morning the centre of a large and deep depression lay at the entrance to the English Channel, the barometer reading only 28.46 inches in the Scilly Isles and 28.49 inches at Brest. At Kilkenny Castle the reading was 28.38 inches. Light northerly winds blew over Ireland, where temperature was rather low. Monday was fine and bright, but cold in Dublin. In the afternoon a beautiful conjunction of the moon and the planet Venus was well seen in a cloudless sky. On Tuesday there was a complete change in the weather owing to the arrival off the West Coast of Ireland of a new area of low pressure. This was quickly followed by another depression, which moved up St. George's Channel at night, producing the downpour of rain on the East Coast of Ireland, of which mention is made above. In Dublin the measurement on Wednesday morning

was 1·388 inches. The depression reached Anglesea at 8 a.m., but then changed its course and travelled eastwards across central England to Holland. Thursday was a gloomy wet day, caused by another and a complex depression, in the wake of which came a bright day on Friday. This improvement was only temporary, for Saturday broke dull and wet with the barometer down half an inch from Friday's reading. In the afternoon the wind shifted to N.W. and the sky cleared with a falling temperature. In Dublin the mean barometric pressure was 29·498 inches, pressure ranging between 28·784 inches at 9 a.m. of Sunday (wind, N.) and 29·930 inches at 3 p.m. of Friday (wind, W.S.W.). The corrected mean temperature was 42·3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 41·4°. On Sunday the screened thermometers fell to 33·2°, on Thursday they rose to 50·9°. Rain fell on five days to the amount of 1·721 inches, 1·388 inches being registered on Tuesday. The wind was very variable.

A change from the rainy weather of the preceding week to cold and dryness was observed early in the week ended Saturday, the 19th. On Sunday, however, a considerable fall of rain occurred in connection with a deep depression which arrived off the South of Ireland in the afternoon and subsequently travelled eastward to Central Germany, where its centre was found on Tuesday morning. At 8 a.m. of Monday the barometer was as low as 28·91 inches at Dungeness in Kent. At both Valentia Island and Roche's Point, Cork, more than an inch of rain fell between 8 a.m. of Sunday and the same hour on Monday. While this depression was passing, an anticyclone stretched south-westward across Scandinavia from Lapland, and this system ultimately caused a polar air current to pass over the British Islands. A number of shallow depressions formed over Great Britain and the North Sea on Wednesday, and with the coming of the N. wind temperature gave way and frost set in at many inland stations. On Thursday night the frost was severe in Central Ireland, Parsonstown reporting a minimum of 21°. Even in Dublin, the thermometer sank to 27·0° in the screen and to 24·1° on the grass. About midday of Friday light hail showers fell in this city. The weather remained dry and frosty to the close of the week, although an increase of cloud interfered with radiation to a great extent. At Parsonstown a minimum of 20° was recorded on Friday night. Mention should be made of an earthquake which occurred in England, Wales, and the east of Ireland at 5 33 a.m. (West European time) on Thursday; also of a thunderstorm with rain and snow which passed over Liverpool in the early morning of the same day. In Dublin the

mean height of the barometer was 29·700 inches, pressure ranging between 29·212 inches at 9 p.m. of Sunday (wind, S.E.) and 30·136 inches at 9 p.m. of Saturday (wind, N.W.). The corrected mean temperature was 36·2°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 34·5°. On Sunday the screened thermometers rose to 44·8°, on Friday they fell to 27·0°. The rainfall was ·272 inch on two days, ·219 inch being measured on Sunday. The prevailing wind was N.W.

At first cold, and at times frosty and foggy, the weather of the week ended Saturday, the 26th, finally became singularly open and warm for the time of year—on Saturday the thermometer rose to 57·6° in the shade, and the corrected mean temperature of the day was 53·5°, or 12° above the average. At the beginning of the period an anticyclone lay over Sweden and Norway, whence it stretched south-westwards to Scotland and the northern half of both England and Ireland. Keen frost held in the central districts of the last-named country—the thermometer falling to 16° in the screen at Parsonstown and to 27° even in the city of Dublin early on Sunday morning. In the afternoon a south-easterly breeze sprang up, causing a brisk rise of temperature and a thaw. At 8 a.m. of Monday the thermometer read 88° at Parsonstown, or 21° above its reading 24 hours previously. Tuesday was a gloomy, cold, wet day in Dublin owing to a depression over St. George's Channel. As this system filled up and dispersed temperature again gave way, so that Wednesday was frosty throughout in Dublin, with a good deal of smoke fog until evening. A lunar halo at night heralded a complete change of weather. Depressions began to move northwards along our extreme western coasts, and their S.W. winds brought cirrus clouds, warmth, and some rain. Saturday, the 26th, was the warmest St. Stephen's Day experienced for many years—in the afternoon the S.W. wind freshened to a gale. In Dublin the mean height of the barometer was 30·058 inches, pressure ranging between 30·242 inches at 9 a.m. of Wednesday (wind, W. by N.) and 29·715 inches at 2 30 p.m. of Thursday (wind, S.W.). The corrected mean temperature was 40·5°, as was also the mean dry bulb reading at 9 a.m. and 9 p.m. On Sunday the screened thermometers fell to 27·0°, on Saturday they rose to 57·6°. The prevailing winds were first S.E., afterwards S.W. Rain fell on four days to the amount of ·278 inch, ·092 inch being registered on Thursday.

The last five days of the month and of the year 1896 were singularly mild, but very changeable, cloudy and showery or rainy.

On Wednesday, the 30th, the thermometer rose to 54·7° in the screen, and there was a S.W. gale in the afternoon.

The rainfall in Dublin during 1896 amounted to 26·901 inches on 194 days, compared with 31·242 inches on 194 days in 1895, 29·261 inches on 209 days in 1894, only 20·493 inches on 174 days in 1893, 25·644 inches on 196 days in 1892, 27·820 inches on 184 days in 1891, 27·562 inches on 200 days in 1890, 27·272 inches on 193 days in 1889, 28·679 inches on 190 days in 1888, 16·601 inches on 160 days in 1887, and a twenty-five years' average of 27·696 inches on 194·3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall in December, 1896, was 7·460 inches distributed over 22 days. Of this quantity 1·630 inches fell on the 1st, and 1·720 inches on the 8th. From January 1st to December 31st, 1896, rain fell at Knockdolian on 169 days, and to the total amount of 36·102 inches. The corresponding figures for 1893 were 22·526 inches on 170 days; for 1894, 38·776 inches on 184 days; and for 1895, 35·135 inches on 174 days.

Mr. Robert O'Brien Furlong, M.A., writes:—

The rainfall at Cloneevin, Killiney, in December, 1896, was 5·03 inches on 22 days. The maximal fall in 24 hours was 1·21 inches on the 8th. The average December rainfall of the 10 years 1885–94, was 2·066 inches on 14·7 days. In the year 1896 the total rainfall amounted to 31·34 inches on 181 days. The maximal daily fall was 1·93 inches on July 25. The rainfall for 1896, though less than that of 1895 (=32·85 inches) or 1894 (=32·64 inches) was largely in excess of the average of the 11 years, 1885–95, viz., 26·15 inches. Rain measuring ·01 inch and upwards fell on 181 days, the average of 11 years being 177. During the first 6 months only 6·96 inches fell on 70 days. There was a period of absolute drought from April 30 to May 17, and of partial drought from April 14 to June 3, during which only ·41 inch was recorded. On July 25 there was a thunderstorm between 2·45 and 4 p.m., and during these 75 minutes 1·90 inches fell. The fall for July—6·72 inches—is the highest recorded in any one month since the observations were begun. That of May is the lowest, with the exception of February, 1891, during which month only ·03 inch fell. Snow fell on 3 days only—March 3 and 28, and December 18—but did not lie for any time. The winter months of the year were exceptionally mild.

RAINFALL IN 1896,

*At 40 Fitzwilliam-square, West, Dublin.**Rain Gauge:—Diameter of funnel, 8 in. Height of top—Above ground, 1 ft. 4 in. ; above sea level, 50 ft.*

Month	Total Depth	Greatest Fall in 24 Hours		Number of Days on which .01 or more fell
	Inches	Depth	Date	
January, -	·720	·212	13th	14
February, -	·868	·320	25th	10
March, -	3·810	·500	17th	23
April, -	·883	·334	13th	16
May, -	·190	·080	18th	7
June, -	1·883	·700	16th	14
July, -	5·474	2·020	24th	18
August, -	1·136	·172	17th	18
September, -	5·073	·949	4th	23
October, -	2·515	·769	7th	22
November, -	·664	·190	14th	9
December, -	4·185	1·388	8th	20
Total, -	26·901	2·020	July 24th	194

The rainfall was 0·795 inch in defect of the average annual measurement of the twenty-five years, 1865–89, inclusive—viz., 27·696 inches.

It is to be remembered that the rainfall in 1887 was very exceptionally small—16·601 inches, the only approach to this measurement in Dublin being in 1870, when only 20·859 inches fell, in 1884, when the measurement was 20·467 inches, and in 1893 with its rainfall of 20·493 inches. In seven of the twenty-five years in question the rainfall was less than 26 inches.

The scanty rainfall in 1887 was in marked contrast to the abundant downpour in 1886 when 32·966 inches, or as nearly as possible double the fall of 1887—fell on 220 days. Only twice since these records commenced has the rainfall in Dublin exceeded that of 1886—namely, in 1872, when 35·566 inches fell on 238 days, and in 1880, when 34·512 inches were measured on, however, only 188 days.

In 1896 there were 194 rainy days, or days upon which not less than .005 inch of rain (five-thousandths of an inch) was measured. This was almost exactly equal to the average number of rainy days, which was 194·3 in the twenty-five years, 1865–89, inclusive. In 1868 and 1887—the warm dry years of recent times—the rainy days were only 160, and in 1870 they were only 145.

The rainfall in 24 hours from 9 a.m. to 9 a.m. exceeded one

inch on two occasions in 1892—viz., May 28th (2·056 inches) and August 16th (1·310 inches). On no occasion in 1893 did one inch of rain fall on a given day in Dublin. In 1894 falls of upwards of an inch of rain in 24 hours were recorded on four occasions—viz., May 15th (1·330 inches); July 24th (1·560 inches); August 25th (1·869 inches); and October 23rd (1·042 inches). In 1895, 1·802 inches fell on January 12th; 1·014 inches on July 24th; and 1·256 inches on July 25th. In 1896, 1·563 inches fell on July 8th; 2·020 inches on July 24th; and 1·388 inches on December 8th.

Included in the 194 rainy days in 1896 are 7 on which snow or sleet fell, and 18 on which there was hail. In March hail was observed on 4 days, in April on 6 days, in June, August and September on 1 day, in October on 3 days, and on 2 days in December. Snow or sleet fell on 1 day in January, on 3 days in March, and also on 3 days in October. Thunder occurred on 6 occasions during the year—once in April, twice in June, once in July, August, and October. Lightning was also seen on four occasions in September, and once in July and October.

The rainfall in the first six months was 7·854 inches on 84 days. The rainfall exceeded 3 inches in March (3·310), July (5·474), September (5·073), and December (4·185). In May it was only ·190 inch on 7 days.

The rainfall was distributed as follows:—4·898 inches fell on 47 days in the first quarter, 2·956 inches on 37 days in the second, 11·688 inches on 59 days in the third, 7·364 inches on 51 days in the fourth and last quarter.

Aurora borealis was observed on five occasions—namely, on February 18th, March 4th, May 2nd, October 11th, and December 3rd. More or less fog prevailed on 51 occasions—10 in January, 8 in February, 6 in March, 2 in April, May, July, and September. 4 in October, 8 in November, and 7 in December. High winds were noted on 114 days—9 in January, 8 in February, 17 in March, 8 in April, 8 in May, 7 in June, 4 in July, 13 in August, 15 in September, 11 in October, 7 in November, and 12 in December. The high winds amounted to gales (force 7 or upwards according to the Beaufort scale) on 32 occasions—2 in January, 10 in March, 2 in April, 1 in May, June and July, 3 in August, 7 in September, 1 in October, 2 in November and December.

MONTH	Abs. Max.	Date	Abs. Min.	Date	Mean Daily Max.	Mean Daily Min.	Rainfall	Rainy Days	Mean Height of Barometer	Highest Pressure	Date	Lowest Pressure	Date	Prevailing Winds
January	56.8	2nd	27.9	21st	48.4	40.1	Inp. .720	14	Inp. 30.308	Inp. 31.020	9th	Inp. 29.897	15th	W., S.W.,
February	56.7	8th	31.9	18th	49.9	40.4	.868	10	30.287	30.642	3rd	29.420	19th	S.S.W.
March	58.5	24th	34.1	27th	52.1	40.1	3.310	23	29.750	30.242	31st	28.593	3rd	W., N.W.
April	64.5	24th	36.1	2nd	57.3	44.4	.888	16	30.179	30.488	19th	29.691	28th	W., N.W.
May	71.8	29th	36.2	1st	63.1	47.3	.190	7	30.398	30.558	25th	29.991	22nd	E., N.W.
June	80.8	15th	49.1	1st	68.3	54.4	1.888	14	29.929	30.276	29th	29.420	17th	W., N.W.
July	76.7	18th	45.0	28th	67.2	54.5	5.474	18	30.006	30.372	17th	29.419	25th	S.W., N.W.,
August	71.1	23rd	45.6	26th	64.3	52.3	1.136	18	30.073	30.361	10th	29.570	29th	N., W., N.W.
September	68.4	17th	41.1	21st	61.4	50.2	5.073	23	29.707	30.449	30th	28.680	25th	W., N.W.,
October	63.7	2nd	30.1	23rd	50.4	39.6	2.515	22	29.760	30.480	13th	28.780	8th	S.E. N.W., N., W.
November	64.0	22nd	26.2	6th	47.6	38.6	.664	9	30.156	30.613	24th	29.157	14th	W., S.W.
December	57.6	26th	27.0	18th and 20th	46.1	36.7	4.185	20	29.702	30.301	27th	28.784	6th	W., S.E., N.W.
Extremes, Totals, and Means	80.8	June 15th	26.2	Nov. 6th	56.4	44.9	Inp. 26.901	Days 194	Inp. 30.010	Inp. 31.020	Jan. 9th	Inp. 28.593	Mar. 3rd	W., N.W., S.W.

JOHN WILLIAM MOORE, B.A., M.D., Univ., Dublin; F.R.C.P.I.;

F. R. Met. Soc.

January 1, 1897.

PERISCOPE.

TWELFTH INTERNATIONAL MEDICAL CONGRESS, MOSCOW.

OFFICIAL notice has been given by the Secretary-General, Prof. W. K. Roth, of Moscow, that June 1, 1897, has been fixed as the last date up to which titles of communications, as well as their conclusions to be printed in advance, should be addressed to the Executive Committee. The Congress will be held at Moscow, as already announced, from the 19th to the 26th of August of this year.

INTESTINAL INTOXICATION IN INFANTS.

THE Rebman Publishing Company, Limited (11 Adam-street, Strand, London, W.C.), have just ready a small work by Dr. F. W. Forbes Ross, of the Children's Hospital, Paddington Green, W., on alimentary and digestive derangements in infants and young children, entitled "Intestinal Intoxication in Infants." The aim of the book is to deal practically with these conditions, laying equal stress on domestic care and management of food as on the other provinces of the physician; also from a practical point of view, and in a manner not hitherto attempted in a single volume.

INFANTICIDE.

THE *Medical Record* quotes from the *Medical Summary* (with which we are not acquainted), the following useful medico-legal hints:—1. It is possible for a woman to be unconsciously delivered, but not likely that she should go through the full term without being conscious of her pregnancy. 2. If the child was suddenly and unexpectedly born, and dropped accidentally on the floor or into a water-closet vault, the cord would be found torn and broken off and untied, and not cut and tied in the ordinary manner. 3. In order that a child shall be live-born within the meaning of the law, it must show some sign of life after being completely separated from the mother. 4. If a mother prepare no clothing for her child, and the child be found dead shortly after birth, this would be considered very strong evidence that the woman intended to destroy it. 5. It is possible that a child may be born living, yet so badly deformed as to render the prolongation of life, after the separation of the cord, impossible. 6. If the child has food partly digested in the stomach and intestines, and the meconium all passed away, the child has lived at

least twenty-four hours, and has been fed. 7. If the septum ovale of the heart is found closed, making a four-cavity heart, the child has lived as much as four days. 8. If the navel cord has withered and come away, and the navel healed completely, the child has lived as long as a week. 9. It is a fact worthy of remembrance, that a child will stand a great amount of exposure, and that they have been found living four days after neglect, under the most terrible circumstances.

SCRUMPOX.

Is a new disease to which football has given rise in England. It is a pustular eruption, coming indirectly from dirty jerseys and affecting especially the forwards in Rugby football, who have to shove in scrimmages. It has been proved to be contagious. Bacterioscopic examination has shown the presence of the *Staphylococcus pyogenes aureus*.—*Med. Rec.*

INTERNATIONAL MEDICAL JOURNAL OF AUSTRALASIA.

THE seven Australasian colonies are represented on the editorial staff of this journal, of which the first issue is now before us. It is published at Melbourne. In it the *Australian Medical Journal*, the oldest, and the *Intercolonial Quarterly Journal of Medicine and Surgery*, the youngest of the colonial medical journals, are amalgamated. The former, we are informed in a prefatorial article, was showing symptoms of failing vitality at the early age of forty years. The latter, in its third year, was not a strong child. We wish the combination all success.

DOUBTFUL RABIES.

IN a paper read to the American Neurological Association, Dr. Rosse, of Washington, "referred to the frequency with which hydrophobia was mentioned by the public press at this season. Late papers on the subject show that there is still a chaotic knowledge of this badly elucidated affection, concerning which surgeons and neurologists are by no means agreed. From examining a great mass of literature relative to rabies, while working on the Index Catalogue of the Surgeon-General's office, Dr. Rosse stated that he came across hundreds of references to hydrophobia of a spurious character, and that these references date from the Homeric era to that of Caelius Aurelianus. Much other literature was also cited, showing that in by-gone times there were sceptics as to the existence of such a pathological entity as hydrophobia. As an extensive traveller in parts of

the world where this disease is supposed to occur geographically, he had never seen a case, nor had he any authentic knowledge of one from personal observation. The secretary of the Japanese legation in Washington says he has never known of a case in Japan, and that in Corea, having more dogs than any other country in the world, hydrophobia is unheard of. A few Italian and French physicians and the newspapers appear to be the chief contributors at the present time."—*Med. Rec.*

COSTA RICA.

We have received some numbers of a new monthly journal, from San José in Central America—*Gaceta Medica de Costa Rica, Revista Nacional de Medicina, Cirurgia, Farmacia é Igiene*. We observe that sero-therapy has attacked leprosy in Central America. Dr. Carrasquilla, of Bogotá (Colombia), read two papers on the subject last year, before the Academy of Medicine of Bogotá, in which he claims complete success for this method of treatment; and his communications have been officially forwarded to the Faculty of Medicine of Costa Rica. In the leper ward of the hospital of San Juan de Dios, there were 15 patients in the year 1895—six males and nine females. Of the latter two died of tuberculosis. The officer in charge is hopeful of favourable results from Dr Carrasquilla's discovery.

A MUSCIFUGE.

A CORRESPONDENT writes to the *Medical Record*:—"Many practitioners of medicine among the poorer classes are greatly annoyed by flies in the sick-room. The annoyance to the patient is doubly great. Such, at least, was my experience, not long since on New York's great east side. An excellent safeguard against these pests is the sweet-pea flower. The *Lathyrus maritimus*, the purple variety, grows near the seacoast from New Jersey around to Oregon, and beside the coasts of the Great Lakes. The *Lathyrus ochroleucus* is found on the hillsides from New England to Minnesota, and even further west. It is distinguished by its small, yellowish-white flower. Either of these varieties can be grown in the sick room, and the sweet odour emanated seems very offensive to the ordinary house fly."

MODERN NAVAL WARFARE.

COMMENTING on the Report of the Surgeon-General U.S. Navy, the *Medical Record* remarks:—"The demand for more space on shipboard for the use of the Medical Department is founded on,

the experiences not only of our own navy, but that of every similar service throughout the civilized world. The number of wounded in action is not only surprising, but truly appalling. It is stated, "that a battleship with a complement of five hundred men in action, if not sunk, will have within a few minutes 30 killed and 120 wounded."

"In the battle between the Chinese and Japanese fleets, off the Yalu River, September 17, 1894, the fragments of one shell, fired at long range at the Tsi Yuen, killed 7 men and wounded 14. Commander McGiffen states in his account of the battle that one steel shell, having a bursting charge of ninety pounds of powder, struck the Japanese flagship and killed instantly 49 officers and men and wounded over fifty."

ILLEGITIMATES IN IRELAND.

THE chief feather in Ireland's cap is the comparative infrequency of illegitimate births. So, great, indeed, is this distinction that the Registrar-General draws special attention to the fact by remarking, somewhat inconsequentially, that "it is unnecessary to say the proportion compares very favorably with the returns from most other countries." The illegitimate birth rate for the entire country was 2.7 per cent. of the total, but it varied greatly in different provinces. In Ulster 39 children in each 1,000 were born out of wedlock; in Leinster, 27, in Munster, 22; while in Connaught the number fell to one. We are certainly of opinion that, instead of *most*, the official dictum might well have been *all* other countries.—*Scalpel*.

CONGENITAL DISLOCATION OF THE HIP.

ORTHOPÆDIC Surgeons will be interested in a paper by Prof. Paci, of Pisa, which appears in the July number of *Il Policlinico*. It is a claim for priority in the discovery of the Lorenz method of curing congenital luxation of the hip without incision. The method is fully described but the paper is too long for abstract. Prof. Paci has practised the method with success for nine years.

ROMAN FEVER.

ROMAN fever is almost a thing of the past. From 650 in 1881, the deaths from malaria ran down to 254 in 1891, while for the last five years the average has been 149, the number in 1895 being 125. These figures are all the more significant in that the population of Rome has increased from 300,000 to 467,000 in fifteen years. An equally remarkable diminution has taken

place in the death-rate for all other infectious diseases, so that Rome even in the traditional unhealthy season, is one of the most healthy capitals in Europe.—*Canadian Practitioner*.

TECHNICAL EDUCATION.

PROF. CORBY has done well to publish in pamphlet form his Lecture on Technical Education, delivered last year to the Cork Young Men's Society. He reviews the system of education in Austria, Germany, France, and Switzerland; the absence of any system in Great Britain; and the almost complete absence of any technical education in Ireland. We abridge from his lecture an instructive history of the destruction of one Irish industry. "There were at least three glass factories in Cork. The late Mr. Joe Ronayne, M.P., whose father was owner of one of the glass factories, used relate how the ruin of the Cork glass trade was accomplished. The men went out on strike, and the English manufacturers, regarding it as a golden opportunity, sent over strike money in abundance. The men were kept walking idly about the streets, but when the trade was effectually diverted into other channels, and the factory furnaces were put out for ever, then the strike money was withdrawn.

CREMATIONS IN PARIS.

THE *Journal American Medical Association*, gives the following table:—

Year				Demanded by Families	Débris from Hospitals
1889	-	-	-	- 49	483
1890	-	-	-	- 121	2,188
1891	-	-	-	- 134	2,369
1892	-	-	-	- 159	2,261
1893	-	-	-	- 189	2,389
1894	-	-	-	- 216	2,247
1895 (four months)	-	-	-	- 75	1,065

ARSENICAL PARALYSIS.

M. COMBY brought before the Paris *Société Médicale des Hôpitaux*, a case of paralysis in a girl of seven, caused by treatment of chorea with arsenio. The chorea being very severe, the equivalent of one-centigram of arsenious acid was given to begin with; and the dose was increased by 0.005 gr., each day until it reached 0.035, whence it was reduced to 0.001. In eleven days the equivalent of 0.235 gr. of arsenious acid had been taken. Symptoms of arsenical poisoning set in on the sixth day. On

the fifth the chorea had disappeared. Twenty-six days after admission, thirty-five after the chorea began, the patient was discharged completely cured. She returned five weeks afterwards, suffering from paralysis which set in 46 days after the last dose of arsenic. The patient could neither walk nor stand, reflexes were abolished, there was no reaction to electrical stimulus, but sensibility to pain remained. Strychnine, sulphur baths, and electricity were prescribed. The paralysis increased but ultimately disappeared. In recovery the parts first affected were the last to recover. M. Comby concludes that in such cases of arsenical intoxication there is an arsenical myelitis, not merely an affection of nerves.

INTRA-UTERINE PUERICULTURE.

M. PINARD brought before the *Académie de Médecine* a paper showing the beneficial effect of rest and care on the offspring of women received into hospitals or refuges for a few days before delivery. He found that when women came directly into the labour-wards from their homes and work, the average weight of 500 infants was 3,010 grm.; of 500 whose mothers had been in the refuge at least ten days, 3,290 grm.; of 500 whose mothers had rested for some time in the hospital wards, 3,366 grm. The superiority of the last class over the second is due to the greater number of primiparæ in the Refuge mothers than in the hospital, in the proportion of 69 to 45.

WOMEN DENTISTS.

THERE is a Dental Association, composed of female practitioners from all parts of the United States, and numbering forty-two active members. The chief condition of membership in it, is the possession of a diploma from some Dental College in good standing. There are not less than one hundred and fifty women dentists in the country, and every year brings a larger number of students to the classes. A three-year course of study is required in the best of the schools to which women have access.—*Jour. A. M. A.*

PHTHISIS IN AUSTRALASIA.

THE *Australasian Medical Gazette* prints a very valuable paper by Dr. G. L. Mullins, M.D., T.C.D., of Sydney, which was read at the Brisbane meeting of the Australasian Association for the advancement of Science, in January last. It was called, "Notes on Phthisis in New South Wales and other Australasian colonies." We extract a few of Dr. Mullins' abundant facts. His figures relate to the period from January, 1890 to December, 1892,

and to the seven colonies; the estimated mean population of which was 3,841,809. The annual average of deaths from all causes was 51,028; from phthisis, 4,081; so that 7.99 per cent. of the mortality was due to phthisis. Deaths from this disease in every 1,000 living were 1.06. In comparison with seven European countries Australasia ranks lowest in mortality from this cause. In every colony, moreover, the death-rate from phthisis is decreasing. It further appears that "The Australasian capitals have very much lower death-rate [from phthisis] than European cities."

SURGICAL APPLIANCES OUT OF PLACE.

THE following cases of foreign bodies left in the abdomen after laparotomy are cited in the last number of our Spanish contemporary, *El Siglo Medico*: "Sir Spencer Wells twice forgot forceps in the abdomen; Pilatte, a compress; Terrillon, a forceps; Quenu, a compress; Michaut, a roll of iodoform gauze; Severnao, two binders of 1.30 meters long. The utmost care of instruments should be taken during a laparotomy, for, as Pozzi says a pair of forceps may slip into a basin or be carried off attached to the tumour or to a sponge without being perceived and lead to the opposite error. H. C. Coe, on two occasions, re-opened the belly to search for a sponge that had fallen into a pail.—*Jour. Am. Med. Assn.*

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

New Tabloids of Compressed Drugs.

MESSRS. BURROUGHS, WELLCOME, & Co., of Snow Hill Buildings, London, E.C., have included in their supplementary list the following "tabloids," of which they have placed samples in our hands:—

Codein "Tabloids."—Each "tabloid" contains half a grain of the pure alkaloid, and should prove useful in administering this drug in diabetes, phthisis, insomnia, and the winter cough of the aged. Codein "tabloids" are issued in bottles containing 25 and 100. *Mercury with Chalk and Opium "Tabloids."*—These "tabloids" have been introduced for use in the treatment of syphilis. The opium has been added to prevent the intestinal disturbance that is liable to follow the continued use of mercury. The "tabloids" contain one grain of grey powder and one-sixth of a grain of opium in each. They are packed in bottles of 100. *Blue and Compound Rhubarb "Tabloids."*—These five-grain "tabloids" con-

tain equal quantities of blue pill and compound rhubarb pill. Their uses as a cholagogue and purgative are obvious. They are supplied in bottles of 100. *Compound Iridin "Tabloids."*—These "tabloids" are prepared according to the following formula:—*R.* Iridin., gr. 2; ext. hyoscyami, gr. $\frac{1}{2}$; pil. rhei. co., gr. $1\frac{1}{2}$. This has been found an excellent combination of alterative and cathartic drugs. The "tabloids" are issued in bottles containing 25 or 100 in each. *Compound Colchicum "Tabloids."*—Each "tabloid" contains one grain of acetic extract of colchicum and $1\frac{1}{2}$ grains of salicylic acid. The joint effect of salicylic acid upon febrile conditions and of colchicum in increasing secretion, diminishing arterial throbbing and relieving pain, renders this combination especially valuable in the treatment of gout and acute attacks of rheumatism. Compound colchicum "tabloids" are supplied in bottles of 100. *Pepsin and Strychnin "Tabloids."*—Two "tabloids" are now issued containing these ingredients, and are suggested for use in atonic dyspepsia—(1) Formula—*R.* Pepsin., gr. 1; strychninæ sulphatis, gr. $\frac{1}{100}$. (2) Formula—*R.* Pepsin., gr. 1; bismuthi subcarb., gr. 3; strychninæ sulphatis, gr. $\frac{1}{100}$. Both are packed in bottles containing 25 and 100 "tabloids" in each.

Compound Phenacetin "Tabloids" (B. W. & Co.)

THE constantly-increasing use of phenacetin as an analgesic and antipyretic has suggested the preparation of "tabloids" of the following formula:—*R.* Caffeinæ, gr. 1; phenacetin., gr. 4. It is anticipated that the combination of phenacetin with so useful a cardiac stimulant as caffeine will prove therapeutically useful in many ways. A number of reports have been received of its excellent effect in relieving the sick headache of migraine. The "tabloids" are supplied by Messrs. Burroughs, Wellcome & Co. in bottles containing 25 and 100.

Lactomaltine.

THE Lactomaltine Company, 35 Snow Hill, London, E.C., have submitted to us a sample of this new claimant to the dignity of a "Perfect Food." It is prepared at the laboratories of the Company, Junction Bridge Works, Edinburgh. A special feature of this preparation is that in it milk and cream are incorporated with malt, the well-known nutritive properties of these several ingredients combining to form "An Ideal Flesh-forming Food," as it is described in the cartoon which each peculiar lozenge-shaped bottle wherein "lactomaltine" is sold bears upon it. The company also advertise a preparation of "lactomaltine" in combination with

hypophosphites, which cannot fail to meet many dietetic indications. A novel feature in the "packaging" of the preparations of lactomaltine is the use of a neat and close-fitting celluloid cap, which entirely does away with the annoyance caused by sticky corks. "Lactomaltine," in its simple and combined forms, appears to us to have a future before it as a dietetic in all wasting diseases and as a winter food for children, whether ill or well.

Triticine.

WE have been afforded an opportunity of examining this food by Messrs. H. Goodall & Sons, of Castleford Mills, Yorkshire. It is a well-prepared and physiologically perfect food. Dr. James Baynes, F.I.C., F.C.S., Public Analyst for the East Riding of Yorkshire, reports on its chemical composition as follows:—

Moisture	-	-	-	14.49	per cent.
Fatty matter	-	-	-	1.12	"
Albumenoids (flesh formers) (containing					
nitrogen, 1.79 per cent.)	-	-	-	11.33	"
Woody fibre (cellulose)	-	-	-	.15	"
Digestive fibre	-	-	-	72.29	"
Ash (mineral matter) (containing phos-					
phates, .12 per cent.)	-	-	-	.62	"

100.00

Dr. Baynes finds that triticine is prepared by a process which retains the whole of the nitrogenous products of the cereal, while it eliminates all its indigestible fibre. Readily assimilable, triticine is a particularly suitable food for both invalids and children. It makes a delicious light pudding if prepared according to the following receipt: Take half a cupful of triticine and boil it in $1\frac{1}{2}$ pints of milk for half an hour. Prepare a pudding dish and pour the mixture into it, having first added one whipped up egg, two ounces of loaf sugar, and one ounce of butter. Mix all the ingredients thoroughly and then bake gently for half an hour. This pudding may be flavoured with essence of lemon, vanilla, almonds, and so on, according to taste.

Personal experience enables us to cordially recommend this delicious food, which is as palatable as it is nutritious.

THE DUBLIN JOURNAL OF MEDICAL SCIENCE.

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B. W. & Co. 'TABLOID'
MEDICINE CHESTS
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PART I.

ORIGINAL COMMUNICATIONS.

ART. XL.—*Three Cases of Ectopic Gestation, with Exhibition of the Specimens in two of the Cases.** By FREDERIC W. KIDD, M.D.; Master, Coombe Lying-in Hospital.

THE subject matter of my paper needs no apology from me for bringing it forward; it is one which has an interest for every medical practitioner who may chance to be called on to attend a pregnant woman, quite as much as for the obstetric specialist and the operating gynæcologist. My personal experience of ectopic gestation is limited to three cases, the notes of which I shall now place before you, afterwards making a few remarks about these cases, and drawing attention to some special points and to some valuable lessons I have learned.

CASE I.—V. S., married, aged thirty-five; admitted 14th August, 1895; never had any living children; had two abortions; last abortion eleven years ago, since which time menses have been regular, until about six or seven weeks ago.

Physical Signs.—Uterus both dextro- and ante-verted and soft; os patulous; tumour to the left side. Sound was passed normal length, with concavity anterior and somewhat to the right side.

Previous History was as follows:—Patient had been first seen by

* Read before the Section of Obstetrics of the Royal Academy of Medicine in Ireland, on Friday, November 27, 1896.

an outside doctor on 9th inst.; she was then in a collapsed and almost dying condition. On the 6th inst., as she was dressing to go out, she was seized by a violent pain in the left iliac region; she felt faint, but did not lose consciousness. She went to bed, and, though the pain diminished, she was troubled with palpitation and ringing noises in her ears. She noticed a slight hæmorrhagic discharge from the vagina on this day, having at the time gone two weeks and 5 days past her regular time—i.e., it was almost seven weeks from her last menstruation.

On the following two days (7th and 8th) she felt a good deal better, but on the evening of the 8th, and all that night, she had very severe pain. A doctor was sent for early in the morning of the 9th, and found her greatly collapsed, as before mentioned; she rallied under suitable restoratives, and the case was carefully watched. The question of intestinal obstruction was raised, as there was so much shock and the bowels had not moved for three days, but later on they acted, and were then well cleared out with castor oil, and again with calomel. For the next few days she seems to have been better, and then to have had another very severe attack of pain, followed by collapse. The abdomen was at this time extremely tender to the touch. The patient bore hypodermics of morphia badly, and was put on digitalis and opium. During this time there was a slight hæmorrhagic discharge from the vagina, but it was intermittent. The doctor in attendance examined the patient per vaginam, and found the external os patulous, and a swelling at the left side; but the abdomen was so tender that a bimanual examination was impossible, and, moreover, she was suffering from inflamed external piles. On the morning of the 14th the patient was seen by Dr. Winifred Dickson, and later on by the late Dr. George Kidd, and a probably ruptured extra-uterine foetation was diagnosticated. On this morning the patient had rallied somewhat, and there was less abdominal tenderness, but examination was still painful. Two pieces of tissue (about $1\frac{1}{2}$ in. $\times$ $\frac{1}{2}$ in.) had come away from the vagina on that morning, and these looked like, and probably were, decidual membrane from the uterus. Their expulsion was accompanied by pain, which the patient said was like the pain experienced in her former miscarriages, but there was very slight hæmorrhage. A tumour was felt at the left side of the uterus, and a soft indefinable mass in Douglas' pouch.

Dr. Kidd thought that with care the patient might be moved, and she was accordingly brought to the Coombe Hospital in an ambulance. The first doctor in attendance reported that the patient's temperature had been normal throughout the illness, but

that her pulse had been very variable, from 90 to 140. It was about 110 on the 14th. The patient looked very ill; her lips and mucous membranes were blanched, and she was said usually to have very red lips. She complained of violent headache, and said she had had cold perspirations. She has always been a delicate subject—small, pale, sallow, and of Jewish extraction. In early childhood her left elbow was excised, and there is still a small discharging sinus. Fourteen years ago her right foot was amputated by Mr. Treves for bone disease, apparently tubercular, like the elbow. She has been married twelve years, and the two miscarriages occurred during the first year. One was six weeks after marriage, and the other six months after marriage; the latter time she went about two and half months. Since then she was always perfectly regular until this occasion. She bore the journey to the Coombe Hospital very well, and after two hours rest she was put under chloroform, and examined by the Master, who confirmed the diagnosis of extra-uterine foetation. A tumour about the size of a hen's egg was found in the position of the left tube; the uterus lay anteriorly, and slightly to the right; the sound passed the normal length; external os patulous. As the bowels had been confined for two days it was decided not to operate until the following day, so as to have them well moved. The patient was given 6 grains of calomel, followed in the morning by a seidlitz powder and an enema, with satisfactory results.

On the 15th, at 12 30 p.m., the patient was put under chloroform, and the Master, assisted by Dr. Geo. H. Kidd, performed laparotomy. When the abdomen was opened a large quantity of fluid blood, more than a quart, escaped, and quantities of black clots were sponged away. The left tube and ovary were removed, and clots sponged out of the substance of the broad ligament, the folds of which had been separated by the hæmorrhage. But little blood was lost, apparently, during the operation; what flowed away was nearly all dark, and not recent. The abdomen was washed out with hot boric acid lotion, and a gauze drain was introduced to pack the raw surface left in the broad ligament. The operation lasted about two hours, and was performed mostly with the patient in the Trendelenburg position. The patient bore the administration of chloroform very well, and rallied after the operation was over. The swollen part of the tube, about the size of an egg, was split open, and a perfect embryo about $\frac{3}{4}$ inch long was found in the centre.

On the evening of the operation, as the patient had great pain, she was given a dose of the "three fifteens." This soothed her

only partially, so that another half dose had to be given, after which she slept for four hours. The external dressings were changed before she went to sleep, as there had been some discharge soaking through them.

On the morning of the 16th she seemed bright and well, but her tongue was very dry; pulse, 110. About 2 p.m. she suddenly seemed to get a change for the worse; a blueness showed round the lips. The drain had to be changed, and this was so painful that she was given chloroform, which she took well. Some dark-coloured bloody fluid welled up from the abdomen. This was sponged away, and a thin strip of iodoform gauze introduced. She complained of great pain during the afternoon, and got 15m of liq. opii. sed., but without much relief. She was also given gr. i. calomel every hour for six hours, followed by ʒi. of sulphate of magnesia every hour, but the bowels did not act. Some flatus, however, passed during the night, and that gave her some relief. The "three fifteens" were again given during the night, and after that she got some sleep. All this time she was being fed with nutrient enemata—egg and beef tea, with some brandy occasionally, and only got teaspoonfuls of hot water by the mouth.

On the morning of the 17th the patient was evidently dying—her face was sunken, pallid, and pinched, and her hands were cold. She complained of great tenderness and fulness in the abdomen, which was found to be moderately distended. There was not much discharge on the dressings, and they were not foetid. A large enema with turpentine was given, but no fæces came away; the long rectal tube was then introduced. A large hypodermic injection, containing half a grain of morphia with atropia, was given to try and ease the pain. The patient died at 2 30 p.m. There was not, I regret, any autopsy feasible.

There are several points of interest in this case which I shall briefly advert to. Firstly, as to the time which had elapsed between the first symptoms of hæmorrhage and the abdominal incision—nine days. This was a long period, and my reading of the case is that there really had been two hæmorrhages—one, the first or primary, happening on the 6th when the tube ruptured into the folds of the broad ligament; she was then better until the night of the 8th, when she again almost collapsed. This was followed by a period of comparative freedom of pain, only to be succeeded by a worse attack of pain accompanied by collapse. I think one or both of

these later attacks of collapse were caused by rupture of the hæmatoma between the layers of the broad ligament into the general cavity of the peritoneum. At the time of the operation the injured broad ligament was found torn and very much lacerated, full of coagulated blood. Such a condition must necessarily very much diminish the chances of a successful operation, and carries out only too truly the axiom of Lusk, saying that "the resources of surgery are rarely successful when practised on the dying."

Secondly, were I to operate again on this case I would alter the *technique* of my operation very considerably—I would be more careful than I was to remove *all* of the blood-clots and blood from the pelvis and peritoneum. This I might have done more thoroughly, but was induced to hasten on the completion of the operation once I had the bleeding points tied. I would have introduced the normal saline solution in washing out the peritoneal cavity instead of boric acid solution, and I should have been tempted to drain through the vagina. The peritoneum was so injured by the secondary rupture that it was hopeless to draw it together again. The gauze drain really seemed to act more as a plug than a drain. I regret that the specimen in this case has been lost.

The following case (II.) differs in many of the salient points from the case that I have detailed. Firstly, the primary rupture took place into the folds of the broad ligament, and there never was any further rupture, so that the patient carried the product of conception in this gestation sac for a period of about twelve months. Secondly, she was seen at the hospital about the period when the primary rupture must have occurred, and her condition was not recognised; and thirdly, she made a remarkably good recovery. The details of her first visit to hospital are as follows:—

CASE II.—M. M., aged twenty-four, married two years, was admitted on 80th Sept., 1895; had one seven months' child, born 18th Oct., 1894, which lived only six hours. Mother was removed to Cork-street Hospital from her own home next day with small-pox. In June, 1895, she aborted when three months pregnant, but could not assign any cause. Menses had been in abeyance for six weeks—from Aug. 2nd until Sept. 11th—but red discharge had

returned, and already lasted three weeks at the time of her admission into hospital, at first rather profuse, but lighter at time of admission, accompanied by severe pain in lower part of abdomen. At this time there was no rise of temperature higher than 99.4° . The lower part of the abdomen was very tender, so as to make any *satisfactory* examination impossible; there was troublesome constipation. The case was diagnosticated as one of pregnancy, with threatened abortion and some slight localised peritonitis. I told her from the size I found what I believed the uterine tumour to be, that she must have made some error in calculation, and that she was longer pregnant than she thought she was. Rest in bed, a sleeping draught for first two or three nights, and careful attention in relieving the constipation, banished all her symptoms, and she was discharged *well* on the 19th. Unfortunately no further examination was made after the pain had been relieved, principally because any further examination might interfere with the pregnancy, having aborted so recently without any cause being assigned.

We lost all sight of her until she returned to the hospital on the 20th of the following July—a year all but twelve days from the time when she had the last regular menstruation—when she gave the following history:—Had had at times an irregular red discharge, sometimes preceded for a day by slight pain. Had no red discharge from October until March, when it lasted for a week; again in April, twice in May, and not since. Complained of obstinate constipation and frequency of micturition. On examination—vagina short; cervix small; os externum sufficiently patulous to admit the tip of the finger. Has a tumour extremely tense, having an indistinct elastic feeling, smooth on the surface, but seeming to have more resistance in some parts than in others; slightly more developed on the left side than on the right; cannot be freely lifted out of pelvis, but capable of slight motion; contents evidently very tense; extending nearly a hand's breadth above the umbilicus; dull on percussion. Measurements—from ensiform cartilage to symphysis pubis, $16\frac{3}{4}$ in.; ensiform cartilage to umbilicus, $7\frac{1}{4}$; umbilicus to left anterior superior spine of ilium, 10 in.; right side, 9 in. Circumference at umbilicus, 34 in.; one inch above, $33\frac{1}{2}$; one inch below, $34\frac{3}{4}$.

Various diagnoses were made, nor was the question of extra-uterine foetation entirely forgotten. The uterus was discovered lying behind and to the right, and the sound passed into it a distance of $3\frac{1}{2}$ in.

On the evening of the 24th patient complained of shivering and headache; temperature went up to 99° . Next evening it rose to

102°; she complained of pain in back and round hips. Abdomen seemed, if possible, more tense, but at level of umbilicus and towards left side you could now get a tympanitic note on percussion which did not exist before. This aroused the suspicion that some putrefactive changes were taking place in the tumour. That night the patient vomited green matter, and the temperature still remaining high we determined to operate at once, even though it was Sunday. The patient having been prepared in the usual manner, an abdominal incision was made about 1½ inches below the umbilicus towards the symphysis pubis. When the abdominal wall was incised, on account of the tenseness of the tumour, it was very hard even then to make out the relations of the parts. When the gestation sac was reached (it was not recognised as such at first) it seemed to be about one-third of an inch thick at least, and cut like uterine tissue. When incised there was an escape of the most foetid gas imaginable, then the body of the child coming into view established the diagnosis. The child, which I here exhibit, was removed. Before I thoroughly grasped the relations of this gestation sac in my mind, I had separated it above from the parietal peritoneum until I had made an opening above which communicated with the general peritoneal cavity. This I had to shut off by careful suturing afterwards, but I did it in fear and trembling lest some of the really putrid contents of the sac might possibly have got in.

Before the removal of the child I had cut the cord. On examining to find out the condition of the placenta I found it actually rotten, and could easily remove the major portion of it as a putrid, broken-down mass. The peritoneal cavity having been shut off by careful suturing, the cavity of the gestation sac was stuffed with iodoform gauze to keep its external walls close to the external abdominal incision. In this way adhesion must have taken place at once. There was not a single suture put in the incision. Naturally there was a very putrid discharge for some considerable time. I here submit a chart of her convalescence. With regard to her recovery there is very little to note; it was very prolonged, so much *débris* had to come away, and such a large gap had to granulate up. The original incision, which was large enough for me to deliver the child with ease, contracted until the cicatrix was only, at the most, three inches long. Several of the silk sutures, which I had inserted between the gestation sac and the parietal peritoneum, came away. The granulation tissue in the centre of the cicatrix would not completely close for a long time, although caustic, sulphate of copper solution, and other

methods were adopted, until finally curetting with a fine curette brought away a silk ligature that may have been causing sufficient irritation to keep it open; when this was done it rapidly closed. The patient was fitted with an abdominal belt and allowed to go about.

This case presents many points of interest, and is, or should be, certainly a warning to be more careful in our examinations and diagnoses. Had such a condition as extra-uterine gestation suggested itself to us when she came to the hospital on the first occasion we could hardly have failed to make the diagnosis. In extenuation of the fact that a definite diagnosis was not made in this case, it may be interesting to quote what has been written on the question of diagnosis by Tait and others:—

Tait says, when a patient is “in danger of death from conditions within the abdomen which do not seem to be clearly of a malignant nature, but a correct diagnosis of which is impossible, I open the abdomen and at once make the diagnosis certain, and a successful treatment possible.”

Tait adds, “*Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it.*”

Strahan, in his “Essay on Extra-Uterine Fœtation,” talking of the ease of diagnosing between extra-uterine fœtation and a small fibroid, says—“But it is a very different story in the advanced stage, or rather when extra-uterine gestation is over, and the remains of the fœtus are consolidated in a mass close to the uterus; when all liquor amnii has been absorbed, and nothing characteristic of a fœtus remains. This constitutes one of the most difficult cases for diagnosis which could be imagined, and a diagnosis of fibro-cystic tumour of the uterus is very generally made, often as a mere cloak for conscious ignorance.”

Again, in the same strain, Parry says—“Although from the careful perusal of numerous histories of cases of this nature some degree of facility of distinguishing their presence may be acquired after a certain period of their duration, and of *deciding*, even in *occasional* instances, on the particular variety of such pregnancies, yet assuredly every practitioner who has attentively studied the subject must admit the dis-

tion to be a task of no ordinary difficulty. There only remains the exploratory incision as a means of diagnosis."

Tait says, "That even were opportunity of examining given, we should fail fifty times for once that we could be certain."

The patient told us on her second visit that the tumour had grown gradually, that she thought herself pregnant—even imagining at the time that she felt movement of the child, which must have been long dead. She said her breasts enlarged and were full until April, since when they had become quite soft and flat. She had no pains similar to labour pains at any time. There was excessive frequency of micturition, accompanied by some pain; there was constipation, but no pain when the bowels acted. Here we miss the usual pains described as "spurious labour." This is an exception to the rule of many cases—that ectopic gestation is preceded usually by a prolonged period of sterility. With regard to the danger of removing the placenta, although in a case of Depaul's fatal hæmorrhage followed its removal four months after the death of the fetus, yet I think it was perfectly justifiable in this case. I removed nothing that did not come away just as broken-down tissue in my hand. The constitutional disturbance caused by the commencing putrefaction of the contents was quite sufficient indication for operation. This raises the interesting point as to how the putrefactive changes commenced in the above case. Was it through infection by the entrance into the sac of the *Bacterium coli commune*, and had the stripping up of the peritoneum as the gestation sac grew anything to say to the question of facilitating the advent of bacteria?

The third case is no less interesting than either of its predecessors. In this case we were able to make the diagnosis of "abdominal collapse" and hæmorrhage without any difficulty, and, *par voie d'exclusion*, it could not depend on anything but a ruptured tubal pregnancy.

CASE III.—J. E., aged thirty years, married for the second time; first married about three and a half years ago to her first husband for ten or twelve months, when he died; never pregnant then; married to her present husband two years and four months. On January 7th, 1896, she had a full-time child, which she nursed for

about six weeks; had to stop nursing as she had not enough milk for the child. On August 15th had an abortion at about two and a half months. Menstruation returned on 1st September, and lasted four days. On 28th or 29th of October she had a gush of hæmorrhage with clots; says she had pain, more or less acute, for some time in lower part of abdomen; red discharge continued until she was operated on. On evening before admission she was making preparation for bed when she was seized with a sudden internal pain, succeeded by violent retching and very free action from the bowels; she had what she describes as "three weaknesses," and sent for medical aid. The doctor on his arrival applied poultices without any very marked good results, and the pain continued up to the time of operation. The next day our Clinical Clerk, Dr. Maguire, was sent for, and, recognising the serious condition she was in, had her removed at once to the Coombe Hospital. I was telephoned for by Dr. Dickson to come prepared to open the abdomen, as she had diagnosticated ruptured tubal pregnancy. This was about 3.30 or 3.40 p.m., and the evening was dark and gloomy. Acting on a hint from Dr. Dickson, I called on Sir Thornley Stoker and borrowed an electric lamp and accumulator. The lamp was fastened by an universal joint to a steel spring, which came from the back of the head over the forehead. Thus armed I went to the hospital, and within half an hour all preparations were made. The patient had had to get opium after she came into the hospital to try and relieve the pain. She was quite blanched when I saw her; very restless; barely able to enunciate a word; skin in a cold perspiration; pulse scarcely perceptible at the wrist.

When the patient had been put under chloroform an examination was made, both by myself and Dr. Dickson, for purposes of diagnosis. No bulging of fluid was detected in the posterior *cul-de-sac*; the whole abdomen was tumid and tense, and when the patient was turned from one side to the other there was no difference in the percussion note at the same level, depending on the position of the patient, such as one usually finds with ascitic fluid.

The ordinary preparations could not be carried out, but the pubis was shaved, and the abdomen had had a carbolic pack put on after having been well washed with carbolic soap and water.

The patient was placed on a Trendelenburg table, which was not raised up at first. A small incision having been made, the peritoneum was reached; it shone with that black back-ground typical of the free peritoneum when filled with blood. When incised a small fountain of fluid blood spurted out. A great deal of this was got

rid of by pressing the flanks upwards, then the incision having been enlarged, there was a very large quantity of clotted blood removed from the pelvis, having the appearance of black currant jelly. I may here say that a rough examination was made of these clots as they were removed, with the result that this body which I now exhibit was found imbedded in one which seemed larger than most others. It is undoubtedly an impregnated ovum, and was the only body we discovered. When most of this was removed the table was placed in the raised position, and the electric light brought to bear on the contents of the pelvis.

I shall never forget the picture that presented itself under the strong light, the sides of the incision being held open by tractors that were at the same time reflectors. The intestines having been pushed up towards the diaphragm, the uterus, the adnexa, and the injured tube were plainly to be seen. It was a matter of a very few minutes to draw up the ruptured tube, to ligature and remove it—three ligatures were all that it was necessary to use. The table was then lowered again quite flat. A good deal of blood had gravitated up to the diaphragm; hot normal saline solution was used to wash out most of this, and a considerable quantity of this was left in the peritoneal cavity. The incision was then stitched with Reverdin's needle and silk-worm gut in the usual way, and the usual dressings applied. The operation took only about five and thirty minutes. Several times the patient was almost moribund, and had to get brandy by the rectum, and one or two hypodermics of ether. However, when the saline solution was poured into the peritoneum it had a most beneficial effect.

The patient's convalescence has been very good. The sutures were removed on the eighth day, and the dressings changed then for the first time. Incision well healed, except at one spot between two sutures, where one side had overridden the other. On the third night after the removal of the stitches the patient was discovered with her hand underneath the dressings, scratching the wound. Next day there was a blush over lower end of incision; this resulted in a small superficial abscess in wall of abdomen, which contained perhaps half a teaspoonful of pus. The patient is now quite convalescent.

The points worthy of note are—that in this case again the tubal pregnancy followed immediately after an abortion, contrary to the general rule. That even when the patient was under chloroform so little evidence of so much blood in the peritoneum could be obtained by palpation.

On examining the specimens before us obtained from this

case, one is very forcibly struck by the smallness of the ovum, and the smallness of the rent in the tube. That a woman may bleed to death from such an apparently small injury is rendered all the more credible when we remember that the hæmorrhage irritates the peritoneum to throw out more lymph, and so retards clotting until the blood is in a very great preponderance.

A very noteworthy observation in this case is the immense advantage of working with the electric lamp, whose only inconvenience was that occasionally it touched the head of my consultant surgeon and assistant at the opposite side of the table when we both tried to look into the pelvis at once. He declared it burnt him a little. For the very excellent notes of the first case I am indebted to my assistant, Dr. Winifred Dickson. I am also indebted to the late Dr. G. H. Kidd and Dr. Purefoy for their assistance in the first of these three cases, and to my skilled consultant, Dr. Heuston, for valuable assistance in the latter two cases.

ART. XII.—*A Case of Extirpation of the Larynx for Cancer.*

By ROBERT H. WOODS, M.B., F.R.C.S.I.; Throat Surgeon to the Richmond Hospital, Dublin.

CASE.—J. M., aged sixty-five, came to the extern department of the Richmond Hospital early in June, 1896, complaining of aphonia which, he said, began ten months previously, and which he attributed to a chill. From the first his voice had got progressively weaker, and in about three months was reduced to a mere whisper. His breath had been getting short, and he complained, especially after prolonged talking, of some pain on the right side of the neck which now and then shot out to the right ear. He had lost a good deal of flesh, and was subject to a cough which kept him awake. He had always had to exert his voice very much in his occupation. There was no difficulty in swallowing; and no history of syphilis. His family history was unimportant.

On examination, the right side of the larynx was occupied by a reddish smooth tumour, jagged internally, extending from the opening of the larynx to below the true vocal cord, involving the epiglottis above and crossing the middle line both in front of and behind the air space. There was slight inspiratory dyspnoea. A lymphatic gland was palpable under the sterno-mastoid.

A small portion of the tumour was avulsed with sharp forceps for microscopic examination. A clinical diagnosis of epithelioma was made, but, pending the report, mercury and iodide of potassium were given internally in the hope that the lesion might prove specific.

The specimen was examined by Prof. O'Sullivan, pathologist to the Hospital, who reported it to be a squamous epithelioma.

The patient was made acquainted with the nature of his case, and a consultation held with the surgical staff, who were of opinion that though, having regard to the man's age and the lateness of his coming under observation, the case could not be regarded as a very favourable one, an extirpation might be undertaken if, after a full explanation of its risks, the patient was willing to have it performed. In this opinion Dr. R. A. Hayes, who kindly examined the patient with me, concurred. After consulting with his family he agreed that it should be done, and left all consideration of the operation entirely in my hands.

The operation was carried out by me, with the assistance of Sir Thornley Stoker, on July 10th. One-sixth of a grain of morphia was injected subcutaneously, and the man chloroformed twenty minutes later. A sandbag was placed at the back of the neck, and the head fully extended. An incision was made in the middle line from the hyoid bone to the sternum, laying bare the thyroid and cricoid cartilages and the trachea. A second incision was made from sterno-mastoid to sterno-mastoid transversely over the thyro-hyoid space, thus forming a T. The triangular flaps of skin and subcutaneous tissue were reflected outwards, and high tracheotomy performed. Chloroform was administered through the tracheotomy tube, by a Trendelenburg's apparatus, during the subsequent stages. The thyroid cartilage was so infiltrated that it parted readily under the knife—though a circular saw, one inch in diameter, worked by an electromotor had been provided in anticipation of its being calcified. The larynx was opened in the middle line, and its cavity inspected. Its right wall was occupied by an irregular tumour, presenting internally an excavating ulcer with a sloughing floor and infiltrated and raised edges. The overhanging false cord screened the ulcer when viewed from above; the necrotic process had burrowed up under the false cord so as to make a pouch with its mouth downwards. The growth extended across the middle line both fore and aft, and clearly indicated complete excision as the only course. A sponge, with string attached, was next packed from the larynx into the trachea above the tracheotomy tube, so as to avoid the descent of blood and ensure his getting enough chloroform.

The sterno-hyoid and sterno-thyroid muscles were cut at their insertions on either side, and the larynx freed laterally partly by dissection with a blunt instrument, and partly with scissors. Vessels were ligatured as they were divided, to avoid the encumbrance of pressure forceps in the wound.

Before severing the windpipe silk threads were passed through its walls on either side of the tracheotomy wound, so as to command it if necessary. The trachea was next cut transversely below the cricoid cartilage, and the lower end of the larynx drawn forwards. The œsophagus and inferior constrictors were detached from its posterior aspect, care being taken not to buttonhole the gullet. The epiglottis, thyro-hyoid membrane and their adnexa, by which alone the part was now held, were severed transversely, and the larynx removed. On inspection, however, it was found that the final incision had gone through an infiltrated portion of the epiglottis, and it was thought safer to amputate it at the base of the tongue; this was accordingly done.

The primary disease was thus entirely removed; a careful search was next made for enlarged glands. One only could be felt; it was taken away through a separate skin incision, so as to avoid the contamination to which the principal wound must inevitably be subject.

The wound was sutured on the plan practised by Solis-Cohen, of Philadelphia, in his celebrated case, which I had the privilege of demonstrating at the Surgical Section of the Royal Academy of Medicine in Ireland. The tracheotomy tube was withdrawn, and the edges of the trachea where the slit had been made for the tube were separated, and each sutured to the skin on its own side of the central incision. The anterior wall of the gullet was brought forwards over the trachea like a cowl, and sutured to the skin and raw surfaces in such a way as to completely shut off the air-passage from the pharynx. It will thus be seen that the man breathed, without any tracheal tube, directly on to the skin of his neck. A No. 14 red rubber stomach-tube was pushed down the œsophagus, passing between two sutures in the transverse wound, and was secured *in situ* by a tape passing round the neck; this was left in for the first twenty-four hours.

I stayed in hospital practically the whole of the rest of the day of operation, and slept there that night, fearing that, as happened in Solis-Cohen's case, some emergency might arise or accident happen with which the resident staff might not have been competent to deal. The man had practically no pain, and suffered no shock.

Only once was I called out of bed, when it was necessary to remove some dried mucus from the opening.

The patient was fed twice or three times daily with milk, corn-flour, &c., by the tube. Once while being fed it was found that it regurgitated along the œsophagus, and appeared in his pharynx, it welled through the wound, and made its way into the trachea. Thanks, however, to a suction apparatus (described under the name of a "blood-sucker"—*Trans. R. A. M.*, 1896) it was promptly removed, and, beyond causing him a temporary cough, did him no harm. We marked the stomach-tube so that whoever should in the future feed him might know when both eyes of the tube were in the patient's stomach.

For twelve days the temperature was quite normal, it then rose to 99·6° F., the apparent cause being slight œdematous pharyngitis. The stools were remarked to be rather offensive, and he was given salol in ten-grain doses.

He developed some cough, but kept very fairly well until June 27th, when he showed symptoms of pneumonia, from which cause he died two days later, on the nineteenth day after operation.

ART. XIII.—*Clinical Pictures of Children's Diseases.* By LANGFORD SYMES, M.R.C.P.I., &c.; late Clinical Assistant and Deputy Medical Registrar and Pathologist, Hospital for Sick Children, Great Ormond-street, London.

(Continued from page 108.)

II. SPLENIC ANÆMIA.

THESE short illustrations of children's diseases are only intended as the most elementary and introductory sketches. They merely aim at being in some small way interesting or useful, as they are based on clinical observations. The subject is enshrouded in so much mystery, even at the present day, that one naturally aims at clearness and conciseness in order that the main facts or landmarks of these peculiar diseases may be the more easily grasped, and stand out in relief. Therefore no lengthy descriptions or philosophical discussions will be undertaken here. We must recollect that many diseases and conditions of infants and young children are still undescribed and ill-understood. The practitioner meets with cases in which a diagnosis, according to our stereotyped classifications, can scarcely be made—cases which

do not fit in with our recognised types of disease, and which have no true description in medical literature.

One may define this disease as "a persistent and intense anæmia affecting infants and young children, accompanied by enlarged spleen and usually by rickets." It has not been properly investigated and described yet. Much work lies here untouched. We are gratified to know it was first depicted by an Irish observer, Dr. Francis Battersby, Surgeon to the Institution for Diseases of Children in Pitt-street, Dublin, who published his careful observations in the *Dublin Quarterly Journal* of May, 1849, as "Tumefaction of the Spleen in Children." Continental and English observers have since confirmed many of his results.

It occurs amongst the wealthy classes just as in poor children. There is a disposition to hæmorrhages, and there are profound changes in the blood. There is a condition of leucocytosis, which has sometimes developed so great an increase of white blood-cells as to resemble leucocythæmia, and "borderland," or composite cases, occur which are most puzzling. It has been observed in infants as young as three months, though it will usually be discovered at from nine to fifteen months.

Very few writers have noticed it, but it is a disease stamped indelibly with unfailing characteristics peculiarly its own, and forms a remarkable picture at the bedside.

Of the antecedents and cause of this disease our knowledge is imperfect. Our chief investigations hitherto tend to attribute it to one of two profound morbid processes—viz., rickets or "congenital syphilis," and its ætiology is rendered more obscure by the fact that "Parrot's nodes" and "bossing" of the infant's skull, so often associated with it, are by some observers held to signify rachitis, and by others pronounced syphilitic.

The fact remains that Parrot's nodes are often found in splenic anæmia, and further, that some cases do well on mercurial treatment. It has even been asked, "Does syphilis cause rickets and rickets cause this disease?" Nearly all cases have rachitic lesions, and some have both rickets and syphilis. Then, again, its association with syphilis may be accidental.

Dr. Packard, of Philadelphia, adduces from various sources the following statistics, which, thrown together in a table, may help us to see the peculiar relations between the three conditions :—

30 cases of splenic anæmia revealed				27 of rickets and 14 syphilis (Dr. Carr)			
63	"	"	"	63	"	"	25 "
60	"	rickets	"	44	enlarged spleens	2	"
105	"	"	"	15	"	"	"
84	"	bad rickets	"	37	"	"	"
155	"	congenital syphilis	"	74	"	"	"

In Berlin, where Henoch observed it, rickets abounded, and many of his splenic anæmia cases were therefore seen in rickety children; but his evidence is not conclusive, for he says that in rickets he has "rarely found an enlarged spleen"—an experience at variance with ours in this country. Its ætiology is therefore still obscure. It has also been attributed to a pure anæmia, but I believe its origin cannot be thus simply set aside, and that more profound processes must underlie this condition. There are, however, great defects in the hæmatogenous organs. Malaria was at one time spoken of, but it is very doubtful. It certainly does not play any rôle in the majority of instances.

Selecting six cardinal symptoms or signs of this disease the most striking are :—

1. *Anæmia*.—The *facies* is very suggestive. The face is pale and rather puffy, and there is marked anæmia of the lips and conjunctiva. It may be perfectly bloodless, or have a waxy, pallid, bluish hue. Most commonly there is a decidedly yellow, sallow, splenic tint with the anæmia. The skin generally is sallow; there is a yellowish, creamy-white appearance and a brilliant yellow, sulphur colour about the cheeks and forehead. This gives the child a very *serious* look, but the eye is bright and "seeking." The pallor is sometimes extreme. The complexion is scarcely ever devoid of these characteristics. I have very often observed brilliant yellow patches in spots over the white face.

2. *Enlarged spleen*.—It can often be seen; I have frequently mapped it out from sight. It is very hard and smooth. The edge is sharp and notched, and it is painless, and you can handle it freely.

3. *Blood changes.* An examination shows:—

Loss of red cells.

Loss of hæmoglobin.

Some increase of white cells, a state of leucocytosis, which varies in amount, but a true leucocythæmia is very rare.

The red cells do not form rouleaux as in health.

There are also many small globules, granules, and microcytes, which, it has been suggested, may be partially-developed red cells. Some large branching leucocytes are also seen.

4. *Rickets.*—This is very common, as evidenced by sweating, Parrot's nodes, beading of the ribs, especially the 6th and 7th; rickety chest, rickety joints, craniotabes, enlarged belly, or enlargement of ends of the long bones.

5. *Hæmorrhages*—i.e., blood extravasations, epistaxis, petechiæ, hæmatemesis or bleeding from the gums, and a tendency to bruise easily.—I have seen large ecchymoses on each knee after slight tapping to bring out the patellar tendon reflexes. Blood may also be voided with the motions.

6. *Edema, especially of the feet.*

Then irregular fever, diarrhœa, lassitude and weakness, mucous catarrhs, pica or depraved appetite, complete the picture. It should also be remembered that the child is not always thin.

The following case is a fair example of the disease:—

CASE.—H. T., a boy aged fifteen months, was submitted to me for examination. The history was as follows:—About two months previously the child began to waste and got very white; he was subject to vomiting since birth; he was getting worse of late; bowels always irregular; subject to attacks of diarrhœa; never takes food well. Never had the breast, but was fed on cow's milk and barley water, then milk and Ridge's Food. No history of thrush, rashes, or snuffles. Teeth appeared normally, and had two teeth at two months. Birth was difficult, and instruments were used, and the mother had a fall downstairs when seven months pregnant. There were four other children living, and healthy; no miscarriages. First child died as a baby; mother has always been

well; no history of tubercle. The father was a cardriver, and healthy. They lived in four rooms, which were not damp, and there were no privations.

On examination the child appeared thin; the skin was loose and flabby; no marked emaciation; face pale and rather puffy, and had a yellowish tinge; *marked anæmia of lips and conjunctivæ*. The skin generally has a sallow appearance; the child sits and lies comfortably in bed; the anterior fontanelle is nearly closed (about $\frac{3}{4}$ inch in transverse and $\frac{1}{2}$ inch in antero-posterior measurements); *craniotabes* present behind and above the left mastoid; *beading of the ribs and ends of long bones somewhat enlarged*; no œdema or purpura; the upper lids look rather puffy. Respirations, 46; no obvious dyspnoea; considerable mucopurulent discharge from nose; lower note on each side of chest rather impaired from liver and splenic dulness. Pulse, 136; heart's apex beat cannot be made out by palpation; area of cardiac dulness is one finger's breadth outside left nipple, to the left margin of sternum, and second space. A *systolic murmur* exists at apex, but both first and second sounds heard also. At pulmonary cartilage a loud, harsh systolic murmur is heard, with a normal second sound. Tongue clean; abdomen distended; *spleen* felt to fill up a large part of the abdominal cavity; liver is $1\frac{1}{2}$ fingers' breadth below the costal arch; glands somewhat "shotty" in both posterior triangles of neck.

Three weeks later, or about eleven weeks from the commencement of the disease, the spleen was $2\frac{1}{2}$ inches below the umbilicus, and seemed to measure $5\frac{1}{2}$ inches longitudinally and $4\frac{1}{2}$ transversely. The child screamed at night, and the *motions were streaked with blood* and mucus.

The twelfth week was marked by continuance of blood in the stools and greater enlargement of the liver. The child was put upon elixir of bone marrow, but it had to be withdrawn on account of diarrhoea.

In the fifteenth week a *blood estimation* showed:—

Red corpuscles, 40 per cent.

Hæmoglobin, 20 „

White cells, 1 to 44 red cells present.

The temperature rose to 103° , for which no cause could be found. There were patches of subcutaneous hæmorrhage over the left eyebrow the size of a threepenny piece.

In the eighteenth week the child was bloodless and pale, but taking food well. Pulse, 176; spleen transgresses umbilicus and pubes. Child had waxy anæmic skin, and a yellowish, creamy-white appearance; *hæmorrhagic ecchymoses* over left chest and

right knee; the upper gum was swollen with a tumid purplish swelling; not bleeding, but has the appearance of a severe contusion; gum was not tender, and there was no sponginess of rest of gums. This condition of the gum got well in ten days—child getting a yellow, sulphurous tint about cheeks and forehead. Another blood estimation revealed:—

Red cells, 45 per cent.

Hæmoglobin, about 30 per cent.

White cells, 1 to 70 of red present.

In the twenty-second week a purpuric eruption was noticed over the left hypochondrium in neighbourhood of spleen, and spleen was $2\frac{1}{2}$ fingers' breadth below the umbilicus; skin was wrinkled and shining, as if œdema had stretched it.

By the twenty-seventh week loud systolic bruits existed over both sides of the cardiac base, especially pulmonary, and over both sides of the neck. Some blood still passed in the stools—a considerable amount on several occasions; spleen as before.

In the thirty-fourth week I examined this child again. There was some glandular enlargement in the neck, but he had remarkably improved. He was fatter, brighter, more cheery and hopeful-looking than before, and ate a great quantity for his age. He was then improving.

In the diagnosis of splenic anæmia many other affections must be recollected. The diseases which most resemble it, and with which it is most likely to be confounded, are:—

1. *Leucocythæmia* (Splenic form).

This must be chiefly eliminated by a careful blood estimation, when it is recognised by—

Red cells very little decreased.

White cells are enormously and permanently increased from about 1:20 to 1:5 or more (instead of 1:300), especially is there an increase of the coarsely granular polynuclear eosinophiles.

2. *Hodgkins' Disease, or Lymphadenoma, Lymphatic Anæmia.*

Here, the lymphatic glands being greatly enlarged, especially in the neck and axillæ, dyspnoea and the enlarged tonsils will help to distinguish it. While the blood shows red cells greatly decreased; very slight increase of white cells, a slight leucocytosis.

Rickets, syphilis, tubercle, lardaceous disease, enteric fever,

ague and relapsing fever also produce enlargement of the spleen ; but the association of symptoms above tabulated are generally sufficiently characteristic to distinguish splenic anæmia.

It is sometimes extremely difficult to discriminate between a tumour of the left kidney and an enlarged spleen, even after the child has been placed under chloroform.

A strange case has been recorded recently* where there was enlarged spleen, œdema of the legs and eyelids, petechiæ on the legs and arms, and epistaxis, with anæmia, and in which these symptoms completely disappeared on the expulsion of a tapeworm (*tænia solium*) from the bowels.

In leucocythæmia the proportion of white corpuscles to red is usually greater than 1:20. But a leucocythæmia in process of development may closely simulate this disease. In this case there was considerable leucocytosis, the white cells being 1:44.

What do we know of the pathology of splenic anæmia? Very little is absolutely certain regarding it. Is this a rickety spleen? or is it another disease in a rickety child? Has it any bony connection? or is it syphilitic? We cannot tell at present. We do not know where syphilis ends. Possibly it is rickets and syphilis both combined and mixed up together. One case I have seen where the child had snuffles, two other children of the same family had died with convulsions and wasting, and there were two still-births. Syphilis was perhaps a cause here. Then these cases go down sometimes under mercurial ointment. Both syphilis and rickets play some rôle in this condition, and it is beyond doubt that it is very closely connected with rickets.

The spleen itself seems to be a simple hypertrophy—a fibrosis. The course of this disease is essentially chronic. In the foregoing instance improvement was very marked only after nearly 10 months' duration and 8 months of treatment. Hæmorrhages and ecchymoses of the mucous membranes, with blood in the motions, may be met with during its existence, and I have seen diarrhœa profuse, and sufficient to cause great anxiety. The child may succumb to the prolonged and increasing exhaustion, or some intercurrent

* *Pediatrics*, April 15, 1896.

affections, as pneumonia or measles. From my own experience I should say diarrhœa is a formidable complication.

Of the prognosis in these cases we cannot speak with certainty. The number of those that recover seem to be slightly over those that die. I have seen some distinctly but slowly improve in a month or two, while some recover completely. Dr. Carr^a gives the following analysis of the 30 cases observed by him:—

13 recovered.	6 disappeared.
10 died.	1 remained stationary.

If distinct increase of white blood-cells is discovered on a blood estimation being made, it is not a good sign. Many children with chronic splenic enlargement die with progressing anæmia, wasting, and dropsy. It is a very intractable disease, even the syphilitic cases, and we must recollect that the spleen responds very tardily to drugs.

Dr. Donkin believes that the ultimate prognosis is bad.

On a *post-mortem* examination of these cases the spleen is found affected with a true hypertrophy. It is tough and heavy, with a thickened and adherent capsule, and it is firm and hard from increase of fibrous tissue. There will usually be found signs of rickets, or perhaps some evidence of inherited syphilis. The treatment of this affection must be persevered in for a considerable time. Changes in the drugs and diet administered will frequently have to be made. Perhaps the best thing we can commence with is:—

Arsenic.—About m. 1 or m. 1½ of Fowler's solution three times a day. Many physicians give much larger doses of arsenic to young children, but in this disease it is not, I think, advisable. Arsenical neuritis is easily produced in children, and I have frequently observed it cause diarrhœa, which is difficult to check. It is said that if there is inanition, signs of tubercle in the lungs, or glandular swellings, arsenic is especially valuable.

The next preparation to rely upon in the management of these cases is *bone marrow*. This is a food possessed of therapeutic qualities. It is taken well. The elixir of bone marrow made by Messrs. Allen and Hanbury has given

^a "Textbook of Diseases of Children." Edited by Dr. Louis Starr, 1895. Vol. i., p. 386.

excellent results. Thirty minims twice a day can be given to a child 15 months old. This, again, may perhaps set up diarrhoea, for it takes very little to produce it in these cases. This bone marrow may be given alternately with arsenic as occasion suggests, and it must be remembered that it does not always act as we desire. If diarrhoea is set up it will require careful and special treatment.

Equally, or perhaps more important than these, is the dietary of the child. Milk diet,* if it agrees, with sponge-cake; beef tea; raw meat-juice, about 3i. daily; gravy. There are few things so beneficial to young children as gravy, and one of the best ways of administering it is to mix it in the infant's milk. A small quantity, thus given, I have seen produce marked improvement. Moreover, they take it admirably, and it is not at all disagreeable. Arrowroot may be given in alternate meals. Peptonised milk, with barley water, or peptonised and boiled milk alternately, especially if diarrhoea be present.

Should any unhealthiness of the gums exist, or hæmorrhages, or any evidence of scurvy appear, the child should have some orange-juice—say the juice of half an orange daily; grape-juice may also be given, while the gravy and meat-juice should be persevered in.

The hygienic surroundings of the child must be good, and fresh air and ventilation obtained. If able to go out or travel, sea air should be sought, and Dr. Eustace Smith's advice followed by bringing the child out, well clothed, *with a flannel binder*, in a well-padded carriage, with a hot bottle to its feet.

Some preparations of iron have been given, also quinine and cod-liver oil. Mercury also has benefited some cases, but unless some syphilitic taint be, with reason, suspected, it is perhaps wiser not to mercurialise the child.

(To be continued.)

* The milk diet usually given at the Hospital for Sick Children, Great Ormond-street, is—

Breakfast, 8 o'clock: Milk, $\frac{1}{2}$ pint; bread, 2 oz., with butter.

Dinner, 12 „ : Rice or other milk pudding; milk, $\frac{1}{2}$ pint, or beef-tea, $\frac{1}{2}$ pint.

Tea, 4 „ : Milk, $\frac{1}{2}$ pint, with 2 oz. of bread and butter if desired.

Supper, 6 „ : Milk, $\frac{1}{2}$ pint, with 2 oz. of bread and butter if desired

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

RECENT WORKS ON DISEASES OF THE EYE AND EAR.

1. *Diseases of the Eye and Ophthalmoscopy: A Handbook for Physicians and Students.* By DR. A. EUGEN FICK. Translated by ALBERT B. HALE, M.D. London: H. Kimpton. 1896. 4to. Pp. 488.
 2. *Handbook of Diseases of the Ear, for the use of Students and Practitioners.* By URBAN PRITCHARD, M.D. (Edin.); F.R.C.S. (Eng.) Third Edition. London: H. K. Lewis. 1896. Cr. 8vo. Pp. xvi. and 275.
 3. *Manual of Diseases of the Ear, including those of the Nose and Throat in relation to the Ear, for the use of Students and Practitioners in Medicine.* By JOSEPH BARR, M.D. Second Edition. Glasgow: James MacLehose & Sons. 1896. 4to. Pp. 415. With 229 Illustrations.
 4. *Modern Optical Instruments and their Construction.* By HENRY ORFORD. London and New York: Whittaker & Co. 1896. 8vo. Pp. 100.
 5. *Color Vision and Color Blindness: A Practical Manual for Railroad Surgeons.* By J. ELLIS JENNINGS, M.D. Univ. Penna. Philadelphia: F. A. Davis Co. 1896. Crown 8vo. Pp. 110.
 6. *Skiascopy, and its Practical Application to the Study of Refraction.* By EDWARD JACKSON, A.M., M.D. Second Edition. With 27 Illustrations. Philadelphia: The Edwards and Docker Co. 1896. Pp. 108.
 7. *Notes on the More Common Diseases of the Eye.* By ROBERT W. DOYNE, F.R.C.S. London: H. K. Lewis. 1896. 8vo. Pp. 47.
1. DR. FICK, as his apology for presenting the world with this book, says that "our best text-books of ophthalmology are too exhaustive; so it seems that for a compactly-written

book, in spite of the number of others already in hand, there is still a place." Again he says: "A text-book may be short and yet complete only at a sacrifice of some detail." "To make the book easier for the reader" he has used "a goodly number of coloured illustrations, and has introduced them into the text; this was a difficult matter, and the reader will probably understand why he has not been altogether successful in reproducing the exact colours with perfect accuracy."

We quite agree with the author, he has not been successful with his coloured illustrations, for anything more utterly crude we have seldom seen; nor do we accept his excuse of difficulty, for a similar difficulty has been most successfully overcome in some of the British text-books, notably Berry's *Diseases of the Eye*, published by Pentland, of Edinburgh.

Figure 51, p. 123, is quite misleading in its misrepresentation of the macula lutea and retinal veins; yet the author has ventured to insert the words "(After Jaeger)" below the picture. It is, indeed, a very long way after Jaeger! Still further removed from verisimilitude are those pictures illustrative of appearances seen in "transillumination;" for example, that on p. 273, which also bears the libellous words "After Jaeger." Nor are the uncoloured pictures always even reasonably good, for another "After Jaeger," illustrating follicular catarrh, p. 197, is no great credit to the reproducer of it.

In the text the author has, we fear, often sacrificed clearness to brevity (a fault not common with German writers). On page 158 he says: "Treatment of ankyloblepharon consists of an operation called *canthoplasty*. The adhesions are separated by a horizontal incision, leaving a wound with a V-shaped surface (Fig. 61). Suitable sutures, as shown in Fig. 61, provide for proper union and prevent re-adhesion in the old form." That is all; and the illustration, which is labelled "Ammon's Canthoplasty," adds but little to the explanation of this really difficult operation.

Somewhat incomprehensible statements are at times made, probably due to the somewhat free translation of the original, as when speaking of *staphyloma cornæ*, page 257, we read "the ciliary body is thereby still more dragged upon, *with the consequence of shutting up the circulus vitiosus*" (the italics

are ours). Of course we can see what the author meant, but it is doubtful if the translator did.

But, on the whole, the author and translator and the publisher are to be congratulated upon their work; the book is interestingly written and accurate for the most part, and the translation is freer from obvious errors than is often the case.

We do not, however, think that the students of medicine in these countries will care to possess this book, as there are so many others already available which seem to us in every way to be preferred.

2. In preparing a third edition of his work, Dr. Pritchard has carefully revised the whole, has re-written a large portion, and has added about thirty pages of new matter.

The great strides that have of late years been made in the diagnosis and operative treatment of mastoid troubles and intra-cranial suppuration have induced him to re-write and considerably amplify this portion of the work.

Of the other alterations the most important are—(1) The section dealing with the chief methods of operating for the removal of adenoid vegetations in the naso-pharynx has been considerably elaborated. (2) The operation for the removal of the ossicles is described and commented upon. (3) The condition known as cholesteatoma has been separately dealt with. (4) A brief sketch of disease of the bone capsule of the labyrinth (Politzer) has been given.

A few of the illustrations have been changed, and four new ones added, including among the latter a section showing the fibrous bands fixing the stapes to the walls of the bony pit in which it is situated.

The third edition, therefore, brings this deservedly popular work up to date. It gives a succinct and well-written description of the diseases of the ear, quite equal in merit to any of Lewis's Practical Series, to which it belongs.

3. As this is a second edition of Dr. Barr's useful work, and we have already given a very favourable review of the first edition, it is not necessary to go into much detail.

In style and appearance the present volume differs considerably from the previous edition. The size of the page has been increased, and the general type is larger.

There are three additional chapters, and the number of illustrations has been doubled; on the other hand, the pages, being larger, are fewer in number.

Of the additional illustrations thirty-four are from process blocks, which are reproductions of photographs, depicting, more especially, methods of examination and treatment.

The whole work has been carefully revised, and, to a considerable extent, re-written.

The aim of the author has been to produce a work neither too bulky for the student nor too meagre for the practitioner, and we congratulate him upon the very successful accomplishment of this exceedingly difficult compromise. The present edition of Dr. Barr's work will, we have no doubt, prove as successful as the first, and hold its place as the best of its kind in the English language. It is concise without being incomplete, and its descriptions are clearly given in excellent language. Style has not been sacrificed to brevity, nor is there a superfluous word in most explanations or descriptions. The author and the publisher we cordially congratulate.

4. MR. ORFORD, in his preface, states that his main object in compiling this book was to place before the reader a descriptive outline of a few of what may safely be termed the more popular optical instruments in use.

Taking the human eye as the most important, most instructive, and certainly the most valuable optical instrument known to science, its construction and properties are first of all dealt with in detail. This is followed by an explanation of the defects and aberrations to which our eyes are not infrequently subject.

The succeeding chapters deal with "The Properties and Aberrations of Lenses—Aberrations of the Eye," "Examination of the Eye—the Ophthalmoscope," "Ophthalmoscopes and their Uses," "The Morton Ophthalmoscope," "Various forms of Ophthalmoscopes," "Retinoscopy," "Spectacles and their Selection," "Stereoscopic Projection—Anderton's

System," "The Principles of the Optical Lantern," "The Stereoscope," "The Spectroscope."

Before any author can hope to be successful it is necessary that he should know something of his subject and be capable of expressing his meaning in accurate and lucid language. Mr. Orford may possess in the highest degree the first qualification, but is sadly lacking in the second, and as both are indispensable, we fear his book will not prove the success which he should hope for until, in another edition, he re-writes much that now is unintelligible or inaccurate.

The first chapter is, in these respects, the worst. We can mention only a few out of many instances. Page 5: "The space between the crystalline lens and the retina is filled with another transparent fluid, somewhat more viscous than the former, *and therefore called vitreous humour!*"

On page 6 we read: "There are, therefore, three surfaces at which refraction takes place; *the first surface of the convex and the two surfaces of the crystalline lens.*"

On page 11 we are told that "for a perfect stereoscopic representation *the points* at an infinite distance must fall on corresponding points of the two retinas, where the axes of the eyes are parallel. If the pictures are brought nearer to each other in the same plane than in the positions thus determined the impression is exactly that of a relief picture."

Of course to anyone already acquainted with the subject the necessary corrections are easily made, and we can see what he wishes to say, but this book is obviously one for beginners, and as such should be very clear in its statements and incapable of misinterpretation.

5. THIS excellently-compiled and clearly-expressed treatise on a subject of such paramount importance as colour vision and colour blindness cannot but prove useful not only to those for whom it is specially intended, but to all who wish for a clear and succinct account of the present condition of the subject from a practical point of view. After a brief "historical introduction" some pages are devoted to the "Physiological Anatomy of the Retina." This is followed by a chapter on the "Physics of Light" and "Color Sensations," and by one on the "Theories of Color Perception and Color Blindness."

Chapter V. deals with "Color Blindness," its classification, frequency, &c., and is followed by a description of the "Methods for Detecting Color Blindness," "Selection Tests," "Pseudo-chromatic Tests," "Contrast Tests," "Special Tests," &c. "Acquired Color Blindness" is then discussed.

A useful chapter is that in which Dr. Jennings gives the "Pennsylvania Railroad Company's instructions for examination of employees as to vision, color blindness and hearing." Also a "description of Oliver's series of tests for the detection and determination of sub-normal color perception (color blindness), designed for use in railway service."

Speaking of acquired colour blindness he lays it down as established that "Re-entrant angles, even for one color with normal outer limit, intermingling of the color-limits, destroying their normal succession and changing concentric curves into zigzag lines, must always be considered as pathological." He uses the term "nyctalopia" as meaning that "vision is better in the evening than it is in the day-time." In this use of the term he differs from most English writers of the present day, though the correct use of this term and hemeralopia is not yet universally agreed upon.

In his preface the author states that he "does not claim to be original, but has endeavoured to produce a practical work on color-blindness which shall contain all that is essential to a perfect understanding of the subject, and to refer the reader to the proper authorities for many of the facts stated." That he has admirably succeeded in his endeavour is beyond doubt, and we can recommend this book to anyone requiring an easy, up-to-date, and accurate account of the subject.

6. THIS, being a second edition, does not require a very exhaustive notice. The book, Dr. Jackson says, was originally "written to bring about the more general adoption of skiascopy as an essential part of the examination for ametropia. It is not supposed that any ophthalmologist is quite ignorant of the test; but many do not know its full practical value, or how best to apply it." He then gives five reasons why this subject claims a careful con-

sideration. The book is divided into eight chapters, a preface, and an index. The first deals with the history, name, difficulties, and method of studying the test; the second deals with "General Optical Principles;" the third with the "Conditions of Accuracy;" the fourth is on "Regular Astigmatism;" the fifth is on "Aberration and Irregular Astigmatism;" the sixth and seventh explain the "Practical Application with Plane Mirror" and with "Concave Mirror;" and the final chapter deals with "General Considerations"—apparatus, mydriatics, and the relative advantages of plane and concave mirrors.

The subject is treated in a fairly exhaustive manner, and, considering its difficulties, the author has fairly well succeeded in explaining his meaning, though in places his method of expression is not perfection.

The chapter which deals with positive and negative "aberration" and with the "scissors-like movement" is decidedly good.

On the whole, we know of no book which gives a more complete account of the test, and consider that the author deserves to be congratulated upon the well-merited success of his work.

7. THIS is one of those little booklets that always excite our wonder—first, on behalf of the author who writes; and secondly, on the part of the purchaser who cares to possess. Of its kind it is good, in that it contains no incorrect instructions or dangerous generalisations which so often mislead.

A System of Gynæcology. Edited by THOMAS CLIFFORD ALLBUTT and W. S. PLAYFAIR. London: Macmillan & Co. 1896. 8vo. Pp. 958.

THE first volume of the *System of Medicine*, edited by Dr. Clifford Allbutt, the Regius Professor of Medicine in the University of Cambridge, has already been reviewed in this Journal. The volume before us deals exclusively with Gynæcology, and the compilers may be congratulated on the numerous array of British gynæcologists—for the most part

of unchallenged eminence—who have contributed to its pages.

We do not believe that this work will ever be republished, but think it will remain a book apart from all others for many years to come. As a *Gynæcology* it is an utter failure, but as a work containing the original writings of such names as Thornton, Sutton, Smyly, Playfair, Henry Morris, Berry Hart, Doran, Cullingworth, Barbour, and Ballantyne, it cannot fail to command respect.

Our reasons for believing the book to be a failure as a work on *gynæcology* are twofold. In the first place, the effort to treat this specialty as one within the domain of medicine has been most unsuccessful. *Gynæcology* is altogether surgical in its methods, and even the casual reader can note the undisguised restraint in which one writer after another deals from a medical standpoint with the subject before him.

Secondly, the effort to apportion the work amongst twenty-six contributors has resulted in a vast amount of repetition, and this unfortunately, for the most part, of the padding type. On the other hand, omissions are noticeable everywhere, while many of the sections are by no means suitable for the writers.

Dr. Handfield-Jones in the first thirty pages deals with the Development of Modern *Gynæcology*. He has succeeded in making his subject both interesting and instructive. He curiously refers to the two old methods of treating the stumps in hysterectomy—extra-peritoneal, and Schroeder's intra-peritoneal methods, as if they are still burning questions to settle, and is apparently oblivious of the fact that surgery has long since weighed both in the balance, and found them wanting.

Dr. Berry Hart follows with a section on the Anatomy of the Pelvis. In this he draws largely from his already published works. His description cannot lay any claim to be comprehensive, and fails to add anything as regards precision of description to the arterial and nervous supply of the uterus already obtainable in standard text-books.

Malformations of the Genital Organs, by Dr. William Ballantyne, is an excellent section, and adds greatly to the value of the work, while the section dealing with the

"Etiology of the Diseases of the Female Genital Organs," by Dr. Balls-Headley, could well have been dispensed with.

We next have to deal with Dr. Boxall's article on "Diagnosis in Gynæcology." This appears to us to exemplify the gravest defects in the work. It is prolix without being in any sense of the word complete. Even were it complete it would be unnecessary, as diagnosis is in this work—and in all others, so far as we know—discussed under the head of particular diseases.

Dr. Boxall has been, we think, assigned an impossible task—namely, to make useful generalisations as regards diagnosis. His success to accomplish this has been indifferent, and the nineteen pages devoted to History and Symptomatic Indications of Disease are amongst the most impracticable that it has ever been our lot to encounter.

The inequalities of the work become very apparent when we pass from the foregoing section to that which deals with Inflammations of the Uterus, Cervix, and Endometrium, written by Dr. A. H. Freeland Barbour. Clearness, conciseness and accuracy are the characteristics of this chapter.

A short, temperate, and suggestive article follows from the pen of Dr. Playfair, on the "Nervous System in connection with Gynæcology." It should be generally read in these days of the higher education of women.

Dr. Henry Gervis contributes an article on Sterility, and the subject is dealt with in a thoroughly complete style.

Dr. Arnaud Rouble deals with Therapeutics as applied to Gynæcology. Needless to say there is nothing new to add of practical value, and the substitution of the word "antiseptic" when "aseptic" is indicated gives a curiously out-of-date tone to the article.

"The Electrical Treatment of Diseases of Women" is dealt with by Dr. Milne Murray. The author is completely at home with his subject, and deals with the minute details of manipulation in a manner that leaves nothing to be desired. The article will be read, we believe, widely by gynæcological specialists.

Dr. Halliday Croom has allotted to him three symptoms, namely—Amenorrhœa, Dysmenorrhœa, and Menorrhagia, and we can only say such a section is quite unworthy of his

genius. There is no more retrograde step in medicine than to exalt a mere symptom into a disease and to deal with it apart from the disease to which it belongs. Dr. Croom not alone has to do this, but in doing it has to go over the ground traversed by several other writers in the book.

To Dr. W. J. Smyly has been allotted the subject of diseases of the external genital organs. The section is written in a clear, readable style, and deals with Vulvitis, Vaginitis, Pruritus, &c. In fact, it may be said that we are afforded the most modern information concerning the commoner diseases, while the rarer forms also receive due note.

We cannot at the same time comprehend why such a section fell to Dr. Smyly's lot. Surely some younger man, who has ample opportunities of observing these diseases in out-patient departments, could have been entrusted with the description of them, while more profitable work might easily have been found for the late Master of the Rotunda Hospital.

This work is, as a matter of fact, singularly incomplete as regards operative gynæcology, more especially in those great modern operations which are day by day becoming better understood and more constantly practised. Dr. Smyly, if we remember aright, has been the pioneer in Great Britain and Ireland of such operations as pan-hysterectomy, hysterectomy by morcellation, colpotomy, vaginal fixation of uterus, and symphyseotomy. He has certainly had enormous experience in these and many others, and we can only regret that he had not an opportunity of describing them.

Dr. Alexander Simpson writes on Displacements of the Uterus. The subject, needless to say, does not lend itself to much original construction, but the author has not omitted much, and the article is an exceedingly full one.

Dr. Herman has the task of describing Lacerations, Fistulæ, and Morbid Involution. Both this and the preceding section are robbed of interest by the absence of any detailed account of treatment.

Dr. Bland Sutton adds practically nothing in the next section, dealing with Extra-Uterine Fœtation, to his account of that abnormality published in his valuable work on "Diseases of the Ovaries and Tubes."

Dr. Cullingworth's article on Pelvic Inflammation is very full and complete, and much enriches the book as a work of reference. It is, however, curious to note the strange prejudice entertained by him for Schultz's method for replacing a fixed uterus. We feel sure that a fair trial of this operation would quickly make him alter his opinion as to its danger and worthlessness.

Sir William Priestley has been unfortunate in having to write an article on a fragmentary part of tubal pregnancy, namely—Pelvic Hæmatocele. He has, however, admirably succeeded in his task.

Dr. Haultain contributes a carefully-written article on Uterine Myomata. His treatment, however, for these tumours is marvellously conservative, and by no means to be recommended in practice.

Dr. Knowsley Thornton describes carefully some of the operations for uterine extirpation. The section is an extremely valuable one, and the experience of so eminent an operator cannot but be read with much profit. It does not, however, aim at being complete, and some of the most valuable methods for performing hysterectomy are entirely omitted.

A long and excellent account of the present teaching in connection with malignant diseases of the uterus has been written by Dr. W. J. Sinclair. It brings our knowledge of the subject well up to date.

Dr. J. Phillips deals with Plastic Surgery, and it is much to be regretted that these operations were not described in connection with the special diseases intended to be remedied by them.

An article on Diseases of the Fallopian Tubes, by Dr. Alban Doran, merits the closest attention.

A fragmentary subject—namely, Diseases of the Ovaries—has been allotted to Dr. W. S. A. Griffiths. He has, however, managed to say a great deal about them, and this section ranks well amongst the good ones of the book.

Those who have had the privilege of reading Dr. Greig Smith's masterly work on "Abdominal Surgery" will find that the author has added nothing of note to his description of ovariectomy in that book.

Dr. Malins deals with Inversion of the Uterus, and says all that can be said on the subject.

The work before us is brought to a close by an able article contributed by Mr. Henry Morris, on Diseases of the Female Bladder and Urethra.

Further comment on this book is superfluous. It must always remain a valuable work of reference, but according to our notion it is an indifferent gynæcology.

Practical and Operative Gynæcology. By J. CLARENCE WEBSTER, F.R.C.P. Ed. Edinburgh: Young J. Pentland. Volume VIII. Pp. 288.

THIS small gynæcological work is eminently one of an examination series, and if the book has been written for this purpose the author is entirely to be congratulated. It contains, in no ordinary degree, information bearing on what might be considered practical questions in an examination.

Thus, Part I. deals with case-taking, physical examination, the use of sound dilators, curette, and aspirator, &c. The information afforded under these heads is accurate and wonderfully concise.

Part II. embraces minor therapeutic measures, under which are described the vaginal douche and its indications, the plug baths, massage, thermo-cautery, and pessaries, &c. Sound information is afforded as to how and when the latter are to be employed. Displacements of the uterus are briefly described.

Sterilisation of instruments, ligature, &c., occupies a comparatively large space in the section, which concludes by a short account of the different actions of chloroform as compared to ether.

Those who are too busy to afford the time required for mastering the contents of a larger gynæcology, and who have not been able to obtain recent hospital experience, will find much valuable instruction in these few pages, as they deal for the most part with subjects on which the views of the profession have undergone a complete change within the past fifteen years.

Part III. brings us on to the larger operations performed

by abdominal section or through the vagina. Here, again, these subjects are dealt with in a manner sufficiently full and accurate to meet the requirements of, we should think, any pass examination in the United Kingdom.

This book is ahead of the numerous other small works on gynaecology which have been published in Edinburgh for a considerable time.

A Pictorial Atlas of Skin Diseases and Syphilitic Affections.

Edited and Annotated by J. J. PRINGLE, M.B., F.R.C.P.

Part VII. London: The Rebman Publishing Co. 1897.

PLATES XXV. to XXVIII., inclusive, are contained in this fasciculus of the Saint Louis Hospital Atlas of Skin Diseases. Plate XXV. shows a remarkable eruption from bromide of potassium which had been taken by a *syphilophobe* under the care of Mons. L. Brocq, acting for Mons. E. Besnier. The case is well described by Mons. Lucien Jacquet, who also supplies the letterpress explanatory of Plate XXVI., showing hypertrophic papular syphilides.

The third illustration is of rupioid and early gangrenous syphilides in a horse-dealer, aged twenty-seven, under the care of Mons. Hallopeau. Plate XXVIII. also contains two striking photo-lithochromes of gangrenous syphilides, which Bazin grouped among his class of *early malignant syphilides*. Two cases are portrayed—the first is an example of tuberculo-gangrenous syphilides, the second is a gangrenous gumma. In the letterpress, translated from the French of Henri Feulard, we meet the new word “biopsy.”

As in former Parts of this work, the illustrations are photographs of models by Mons. Baretta.

A Short History of Aryan Medical Science. By H. H. SIR

BHAGVAT SINH JEE, K.C.I.E., M.D., D.C.L., LL.D.,

F.R.C.P.E.; Thakore Saheb of Gondal. With ten Plates.

London: Macmillan & Co., Ltd. 1896. Pp. 280.

THE appearance of a royal or noble or quasi-noble name upon a title-page is apt to remind a profane reviewer of Johnson's comparison of such productions to the perform-

ances of a dancing dog—"The wonder, Sir, is, not that he dances so badly, but that he dances at all." In the case before us we may say at once that if the thing was to be done at all the Thakore Saheb of Gondal has done it well. The folk-lorist will rejoice to read. Those strangely constituted minds to which Lear's Book of Nonsense affords delight will find "fresh woods and pastures new" in many of these pages. To call the beliefs and practices here detailed "medical science" is an abuse of language; and to search for anticipations of modern medical discoveries amongst these old wives' fables is labour lost. To those who know how great has been the progress of western medicine in India it is simply amazing to find that so much has been done in a country whose infallible guides teach, for instance, that important functions can be efficiently performed only while respiration is carried on through the right nostril. That Hindus brought up in such beliefs should be trained to become most valuable assistants, and most skilful and successful practitioners of surgery and medicine, speaks well for the industry and ability of the teachers, and for the docility of the taught.

One branch of Hindu medicine there is which deserves study, and will, so far, at least, as India herself is concerned, repay it. The Hindu *Materia Medica* is copious, and much of it is valuable. It is not, of course, free from the puerilities and errors to which the subject is peculiarly liable. The *materia medica* of Europe in the Middle Ages, and later, was little better. But many drugs of the Indian repertory are capable of replacing the more costly and not more effective medicaments imported from Europe. More than one attempt has been made by the late Mr. Waring and others to popularise the knowledge and extend the use of native drugs, hitherto with little success. That India produces all the medicines which her physicians need we have little doubt. The apathy of Indian Governments, the pressure on the India Office of interested parties, and, perhaps, the reluctant conservatism of the medical officers have prevented a substitution of native for exotic drugs, which would be financially beneficial, and would have favoured the spread of European medicine.

The ninth chapter treats of the Qualities of a Physician, and his Prognosis according to Hindu Medical Science. There is some sound teaching in it. "He who is in a position to pay his doctor's fee, but does not, though under his medical treatment, is styled 'wicked,' and said to transfer all his 'merit' to the physician," is of universal application, though it is difficult to believe that such a person can have any "merit" to transfer. On the other hand, "to treat a patient conscientiously is supposed to bring 'merit' to the physician, who should not therefore sell his 'virtue' by treating a poor patient for the love of lucre." Here the Hindu physician and the European are on common ground. In prognosis, we fear, Hindu medical science helps us not.

Of Indian surgery little is said. In its palmy period—for in later times it fell upon evil days—operative surgery was systematically taught. "The preceptors made their pupils practise different operations on various substances." The details of these are amusing reading, winding up with "catheterisation on an unbaked earthen vessel filled with water." We are reminded of the American obstetric teacher who, warning his class against the folly of trying to learn midwifery on the "phantom," said, "You may as well practise passing the catheter on the village pump."

Archives of Clinical Skiagraphy. Edited by SYDNEY ROWLAND, B.A. Camb. London: The Rebman Publishing Co. 1896. Vol. I. No. 3. December, 1896.

THIS Part of the Archives contains six plates, numbered XIII. to XVIII. inclusive. The subjects are full of interest. Plate XIII. shows two "skiagrams" of fracture of the olecranon treated by suturing with wire. The case is reported by Mr. Albert E. Morison, Hon. Visiting Medical Officer to the Hartlepool Hospital, in whose practice it occurred. Plate XIV. gives a skiagram of fracture of the lower end of the humerus, with separation of the external condyle. It is by Mr. Hugh M'Lean, F.R.C.S. Edin. In a second figure, Dr. John Macintyre, of Glasgow, presents a skiagram of hip-joint disease. Plate XV. shows six toes on each foot of

a lady aged 20. Plate XVI. consists of a skiagram of a double monster taken by Mr. J. Lynn Thomas, Assistant-Surgeon to the Cardiff Infirmary. The specimen belongs to his colleague, Professor Hughes, of University College, Cardiff.

In Plate XVII., ununited fracture of both bones of the forearm, before and after union by wiring, is illustrated. The case was in the practice of Mr. Bland Sutton, and the skiagrams were taken by Mr. Sydney Rowland.

The last Plate (XVIII.) in the present Part of the Archives shows the skiagraphy of the soft and the hard tissues. It is by Dr. John Macintyre.

A Manual of Clinical Diagnosis by means of Microscopic and Chemical Methods, for Students, Hospital Physicians, and Practitioners. By CHARLES E. SIMON, M.D. London: Henry Kimpton. 1896. Pp. 504.

THIS work, dedicated by the author to his wife, and to Professor Rudolph von Jaksch, reminds one not a little of the well-known work on Clinical Diagnosis of the great Austrian teacher. It quotes his opinions and borrows his illustrations freely, and no doubt owes a good deal to the impulse his work has given to microscopico-chemical diagnosis. But such indebtedness is inevitable, because of the identity of the subject and the large survey of the subject contained in von Jaksch's volume. In justice to Dr. Simon, it has to be said that his work is in some measure an improvement on von Jaksch's. If it is less full it is also clearer; if often less attentive to details, it is, as a rule, more philosophically arranged; it is more explanatory, more methodical—in fine, better proportioned. Dr. Simon approaches almost all parts of his subject from the normal, or as he calls it, the "physiologic" standpoint, and from it standardises the abnormal or "pathologic" departures. In theory this is an admirable method; it has been admirably worked out. Take, for instance, the chapter on diseases of the stomach. A brief examination of the evidence as to the main functions of the stomach, the purpose of the hydrochloric acid, the origin of lactic acid, the nature and function of the ferments, leads up

to an orderly exposition of the modern methods of research as applied to the quantitative as well as qualitative examination of every normal or abnormal element of importance found in the stomach. Several test meals are detailed, with the special value of each. The tests for hydrochloric acid are described in the order in which most can be learned, with least waste of energy; and similarly with the other procedures. In this connection the author lays stress upon the fact that excess of lactic acid, after a suitable test meal, is more suggestive of gastric carcinoma than the oft-quoted deficiency in hydrochloric acid. The section on the stomach ends with a valuable differential table of the physical signs of the more important diseases of that organ.

Several similar tables appear in other sections of the book, all of them of distinct merit and usefulness. The chapters on the blood and the urine are well done, and are illustrated by several excellent engravings and coloured plates, many of them original. On the whole, Dr. Simon's book can be safely recommended as that of an experienced worker who has also the gift of teaching. It is simple, orderly, well-reasoned, and full; and is very far from being a compilation from other men's works. We are almost inclined to put it forward as the best book of its kind at present in the hands of the English-speaking profession.

A Text-Book for Training Schools for Nurses, including Physiology and Hygiene, and the Principles and Practice of Nursing. By P. M. WISE, M.D.; Medical Superintendent, St. Laurance State Hospital; Professor of Psychiatry, University of Vermont, &c. In two Volumes. Pp. 247 and 327. New York: G. P. Putnam's Sons. 1896.

It would appear to be a very difficult thing to write a book for the instruction of nurses. On the one hand there is the Scylla of instructing them to such a degree that they become blind to the extent of their ignorance, and begin to think that they are fully qualified to treat cases of disease themselves; on the other is the Charybdis of giving so little information as to render the book almost useless. We think that Dr. Wise has succeeded in steering a wise

course between these difficulties, and has produced a book which contains a vast deal of information, and at the same time makes it plain that the nurse's true function is to carry out intelligently the directions given her by the physician or surgeon.

The book begins with chapters on anatomy and physiology. These are very suitably, we think, mixed up together, so that the structure and the functions of an organ are considered at one and the same time. Thus, foods and beverages, sleep and its disorders, air and ventilation, are treated of in this volume.

We next come to an account of micro-organisms. There is on page 172 a very rough woodcut of some kinds of bacteria, in which we notice that what is described as "*spirillæ (sic) of malaria*" should probably (we cannot speak with certainty as the print is so poor) be "*spirilla of relapsing fever*," Following this subject naturally come the chapters on disinfection and disinfectants; these are, on the whole, good.

The sick-room, its preparation, temperature chart and note-taking come next and complete Vol. I.

Volume II. treats of practical nursing. Poultices and other external applications, enemas, bandaging and splints are described clearly. Then anæsthetics are treated of. It is well for a nurse to know something of the mode of administering anæsthetics, but we sincerely hope she may not be so foolish as to put her knowledge to the test of practice.

The nature of most of the ordinary diseases is mentioned, and special chapters on the nursing of children and insane patients, and on gynecological nursing are added.

An appendix concludes the book, containing a list of drugs with their uses and doses, a medical glossary, and a number of recipes for preparing different kinds of food suitable for invalids and the sick.

As we have already stated, we consider this a good, practical book for nurses. We regret that it is disfigured by a number of inaccuracies, which should have been corrected. Thus we read "*The sebaceous glands on the face appear as small black points, which are commonly called*

'worms.' " On page 41 there is a woodcut stated to illustrate "Capillary blood-vessels, showing blood-discs." The so-called "blood-discs" are the nuclei of the endothelial cells. When we read "A *thrombus* is the coagulation of the blood in a blood-vessel," and "The *fæces* is the matter excreted by the intestines," we think the ideas are correct, but the words leave a feeling of sorrow for English "as she is wrote in America." We are also told that 300 cubic feet of oxygen are consumed daily. What chests those Americans must have! There are other similar blemishes which could easily have been corrected.

These matters, however, do not much diminish the value of the book. We must, in conclusion, quote some most excellent remarks on food:—"In acute sickness the diet is usually prescribed by the physician. Its preparation is usually left to the nurse, and upon its proper preparation, palatable qualities, and pleasing appearance, may depend the patient's appetite. A particular care of the nurse should be that the suggestion of food should not be made to the patient—either by talking about it, or by allowing the smell from its preparation to reach the sick room until it is set before him ready to eat, upon attractive dishes and with clean linen." We may add that Dr. Wise does not leave his nurse ignorant even of the art of probing a bedstead with a tooth-pick for bed-bugs.

The Climate of Bournemouth in relation to Disease, especially Phthisis. By A. KINSEY-MORGAN, M.D.; Hon. Medical Officer, Royal Victoria Hospital, &c. Bristol: John Wright. 1897. Pp. 51.

In this little book the author shows that Bournemouth possesses many of the qualities desirable in a health-resort. The soil is dry—a most important point, seeing that Sir G. Buchanan, in one of his reports to the Privy Council, showed that the death-rate from consumption varied inversely with the dryness of the locality. Bournemouth is situated on clean silicious sand. The air is pure, and the climate is mild. He describes also the temperature, amount

of sunshine, prevailing winds, and other meteorological factors. We must, however, protest against the comparison with the Engadine Health Resorts, based on the number of *possible* hours of sunshine in January. There are many hours of possible sunshine in Dublin during January, but the actual hours of sunshine are sadly few.

Notes of a number of cases of phthisis, overwork, rickets, and other diseases are given, showing the benefit received from a change to Bournemouth.

An appendix contains an account of the Mont Dore cure, which consists of the use of certain saline sprays, douches, &c. The requisite apparatus is to be found working in Bournemouth.

JANUS.

WE have received the first number of this triglott periodical, published in Amsterdam. It is to appear every two months. Dr. H. F. A. Peijpers, informs us in his introductory address "to all interested in the progress of the history of medicine and medical geography"—for in these two directions the Janus faces are directed—that there was no journal in all the world devoted to these special subjects. Of the original papers five (and the introduction) are written in French, three in German, and two in English. One of the last is a report on Leprosy in Iceland, by Dr. Ehlen, who estimates the number of lepers in the island at 200. We welcome the *Archives Internationales pour l'Histoire de la Médecine et la Géographie Médicale*; and wish Janus a long life.

PREVENTION OF BLINDNESS.

STRENUOUS efforts are being made by the profession in the United States for the prevention of blindness arising from ophthalmia neonatorum. It is mainly attributed to the neglect of midwives and nurses; and the remedy lies in legislation making failure to notify the earliest appearance of the disease to a legally qualified medical practitioner penal. A committee of the American Medical Association reported progress as follows, in May last: Nine States had adopted the necessary legislation; which thus applies to a population of 18 millions; in five the bill has been referred to committees; in four it has passed one house, and been defeated in the other; in four it has been approved by the profession, but not brought before the legislature.

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF SURGERY.

President—WILLIAM THOMSON, F.R.C.S.I., President of the Royal College of Surgeons in Ireland.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

Friday, November 13, 1896.

The PRESIDENT in the Chair.

The PRESIDENT delivered an address entitled "Some Surprises and Mistakes." [It will be found in Vol. CII., page 475.]

Two Successful Cases of Tapping the Pericardium.

MR. AUSTIN MELDON read the following paper on the above subject:—

In 1663 Riolanus first proposed paracentesis pericardii. One hundred years later Senac stated that the operation was possible, and still later Van Swieten suggested a method of performing it. In 1806 Corvisart stated that it was not justifiable. Laennec believed it was possible. It is, however, more than probable that until 1819 it was never attempted. In that year Romero, of Barcelona, operated with perfect success. He made his incision in the fifth intercostal space at the junction of the cartilage and rib, picked up and opened the pericardium. Jowett, of Nottingham, operated in 1827, and Schuh in 1839. Since that period the operation has been performed so many times, and with such eminent

success, that surgeons are now in a position to consider the circumstances and mode of operation which conduce most to its successful issue.

At present just one hundred cases have been recorded, and I believe that many more have occurred which have never been published. Out of all these cases, only once has the operation proved fatal. In this unsuccessful case the right ventricle was lacerated by the trocar. Some others have died soon after the operation, but these were cases that were moribund at the time it was undertaken. The remainder were, without exception, relieved and many of them cured. Under these circumstances it is clearly the duty of the surgeon, whenever death is imminent from cardiac pressure, to resort to tapping. Experience, too, has shown that the operation is not attended with great danger, and certainly in cases of effusion from rheumatic pericarditis there is every prospect of recovery. It is generally held that death caused by pressure of fluid in the pericardium is a rare occurrence, but the correctness of this view I am inclined to doubt. I have seen several cases within the last thirty years in which I am convinced that the fatal termination was due to this cause, and might have been averted by drawing off the fluid. On one occasion I was able to verify this opinion by a *post-mortem* examination. It is with the view of eliciting the opinion of the members of this Section that I have brought these cases forward.

The first case occurred some years ago. The patient was a woman, fifty-eight years of age, and was admitted into Jervis-street Hospital, with dyspnoea, under the care of the Senior Physician, Dr. Stephen Myles M'Sweeney. On examination she was found to be slightly cyanosed, respirations 24; she had a feeble pulse and heart-beat, with increased præcordial dulness. From this condition, and from the history of the case, it was evident that the patient was the subject of very gradually-developed "hydrops pericardii." For some time treatment seemed to be followed by improvement. Three weeks after admission, however, Dr. M'Sweeney became convinced that the effusion was increasing, and as death seemed imminent, he requested me to tap the pericardium. The instrument I selected in this pre-antiseptic period was a long hydrocele trocar, which was washed well in very hot water. An incision was made into the skin two inches from the sternum in the fifth intercostal space, and at the suggestion of the surgeon, M. H. Stapleton, in order to make it valve-like, I drew up the skin to the full extent possible before making it. The trocar and cannula were pushed one and a half inches backwards with a slight inclina-

tion upwards. On drawing out the trocar no fluid came, and as the point of the cannula did not move freely it was evident that the instrument had not entered the pericardium. Again inserting the trocar I pressed it in a quarter of an inch further, and on withdrawing it fluid of a dark colour followed. I was now able to push in the cannula to the full extent without feeling any obstruction. When 8 oz. had been withdrawn the fluid flowed very slowly, and the instrument was therefore taken out, and the wound covered with flexible collodium. As the patient appeared faint, a little brandy and ammonia was administered. An hour later all difficulty of breathing had disappeared, but although the patient expressed herself completely relieved, a very slight cyanotic condition remained. On the following morning this was gone, and her pulse was strong and regular. She left the hospital five weeks later in perfect health.

On the 5th of March, 1894, I was summoned to the bedside of a man, aged twenty-six. Ten days previously he complained of a severe pain in the right side, which was relieved by the application of mustard. Next day both knee-joints were inflamed, and this, together with the temperature and copious perspiration, marked its rheumatic nature. Under the use of salicylates the disease assumed a sub-acute form, and until the 3rd of March he seemed to be progressing favourably. On that date pericarditis was first diagnosed. On the 5th his condition was as follows: The breathing was extremely difficult, respirations 32, pulse 108 and feeble, the heart-beat could barely be felt, and præcordial dulness was greatly increased, and extending to the fifth right intercostal space. Cyanosis and epigastric distress to a considerable amount were also present. Believing that death was imminent if not relieved, I obtained the consent of his friends, and finding on my return with the necessary instruments that no relief had followed the active treatment I had ordered, I proceeded to operate. Selecting the fifth intercostal space, I carefully measured one inch from the left margin of the sternum. The spot thus determined I marked with ink, having previously adopted the usual antiseptic precautions. I next selected the smallest-sized needle and washed it and the aspirator by passing through some hot carbolic lotion. The vacuum was now created in the instrument, and a small incision made through the skin at the point marked. I next measured two inches from the point of the needle, and here fixing my finger I plunged the needle backwards with a slight inclination upwards until stopped by my finger. The cock of the aspirator being now turned, I was gratified to find serum appear in the glass. Almost

immediately the patient's breathing improved to such an extent that when 5½ oz. had been removed I thought it right to withdraw the needle. I remained in the house for several hours, and when leaving the pulse was 100, the temperature 100°, respirations 24. Cyanosis, dyspnoea, and epigastric distress had completely disappeared. The fluid, unlike that in my previous case, was a healthy serum.

The progress of this case was most satisfactory. Two days later the pains in the knees returned, but were readily relieved.

On the 31st of August, 1894, a case occurred in the practice of my friend, Dr. Joseph Redmond, in which 22½ ounces of dark-coloured fluid were removed, and seven days later 27½ ounces were also taken out. In this case, which recovered perfectly, a drainage tube was subsequently inserted. Dr. Patrick Hayes was the surgeon who operated.

The careful consideration of the statistics of paracentesis pericardii shows that the fifth left intercostal space, at a point one inch to the left of the sternum, is the most suitable place for puncture. The selection of the instrument would likewise seem of some importance. If too small a cannula be used it is apt to become plugged with flakes of lymph.

I show two instruments which have been made for me by Messrs. Smith and Sheppard. One is to be used with, and the other without, an aspirator. Both become arrested when two inches of the instrument have passed into tissues, and then any further depth is obtained by a screw motion. This latter is the suggestion of Dr. Woods. I believe that when there is any fluid in the pericardium it is quite safe to plunge the trocar in fully two inches.

I may conclude this paper by quoting Dr. Samuel West's conclusions to his able article in the *Medico-Chirurgical Transactions*, and which I believe should be adopted by the profession:—

“1. Paracentesis pericardii is not only justifiable, but an operation which may be safely undertaken with ordinary precautions. One case only is recorded in which the operation was fatal. With this exception all the patients were greatly relieved by the removal even of a small amount of fluid, and many recovered completely, who would probably have died if the operation had not been performed. 2. The most suitable place for puncture is, in ordinary cases, in the fifth left intercostal space, one inch from the edge of the sternum, but if the pleura be adherent the puncture may be made safely much further out, and even in the sixth space. 3. The instrument employed should be a trocar and cannula, with or

without aspiration. 4. The operation may be performed with advantage not only in the pericardial effusions of rheumatic or primary origin, but also in those which occur in the later stages of general dropsy, if it should appear that the fluid in the pericardium is adding to the difficulties under which the heart is placed. 5. Purulent pericarditis is best treated on general principles like an empyema.—(a.) The pericardial sac may in these cases be safely opened and drained. (b.) The treatment, moreover, appears to be the only one which offers the slightest hope of recovery. (c.) The results are likely to be more favourable than those of empyema, for the walls of the cavity are better able to contract rapidly and thus permit of complete obliteration."

The PRESIDENT said he would be glad to hear this important paper discussed. The principal questions for consideration were, as to the place where the puncture should be made, and as to the best way of dealing with the conditions that occurred when the disease became purulent.

MR. LENTAIGNE said that the principle of the procedure which Dr. Meldon recommended should be adopted much more often than had hitherto been the case. The operation was comparatively easy of performance, and the results were likely to be satisfactory. In two cases, not long ago, which came under his notice, the operation, which would very probably have given relief, was not permitted. One was that of a little boy in whom an examination unmistakably indicated an enormous effusion in the pericardium. His parents, with the sanction, he feared, of the gentleman who had charge of the case, refused to allow any operation to be performed. In the other case the gentleman in charge would not permit an operation, saying it would be absurd to attempt to do anything in the region of the heart. Both patients were consequently allowed to die from what he might call simple heart suffocation, resulting from extreme distension of the pericardium.

DR. FRAZER said he was reminded of a case which came under his notice many years ago. It was at first thought to be one of pleural effusion, but turned out to be pericardial. The patient died, and after death a measured gallon of fluid was drawn off. That case might have been beneficially treated by operation. He had, however, had fair success in treating pericardial effusion in rheumatic cases medically. In one of them the patient, a child, had three distinct attacks of rheumatic fever accompanied with effusion; and the child had recovered, and was in health at present. Two things excited doubt in his mind in connection with cases of

rheumatic fever, of which he had had three severe attacks himself. He did not know what would be the use of tapping in the case of a "pine-apple" heart surrounded with three inches of lymph. Again, there was a class of cases of rheumatic fever in which carditis occurred, followed by delirium, and in which the effusion was not at all in proportion to the severity of the cardiac symptoms.

SIR THORNLEY STOKER said the great crux was, not as to the propriety of opening or tapping the pericardium in cases of serous effusion, but as to how the case was to be dealt with when there was pus in the sac. He could not conceive that there should be any question as to the propriety of using an aspirator to remove serum in order to prevent death by what Mr. Lentaigue had so aptly called suffocation of the heart. But when there was pus other considerations arose. Not only had it to be evacuated, but means should be provided for the removal of pus that formed subsequently. When there was only serum, after it had been removed a reactionary condition was set up, and no further accumulation of serum occurred. But where there was pus, although the heart was relieved by the removal of it, a secretion of pus would continue where there were ulcerated or diseased surfaces; and the removal of it in the first instance was almost useless, unless means for subsequent drainage were provided. One anxious question was whether this should be effected by a series of independent operations, or by the introduction of a permanent drainage tube. He thought the introduction of a trocar and cannula to such a depth as two inches totally unnecessary, except in the case of a patient of exceptional obesity. The cases to be dealt with were to be regarded as of an average type in that respect; and the question was not how far the instrument used might be put in without scratching or injuring the heart, but what was the depth necessary in order to drain the pericardium.

PROF. BENNETT said he could only speak of a single case. Very early in his experience as an hospital surgeon he received a note one summer evening from a physician, long since dead, requesting him to tap the pericardium of a patient. The physician did not meet him to consider the conditions of the case—that being the practice in those days. At that time Trousseau, of Paris, had formulated an operation to be performed with a bistoury rather than a trocar and a cannula; and he (Prof. Bennett) would prefer the bistoury for an operation of the kind. He examined the man to the best of his lights at the time. He found him too ill to give any details of his previous life history; but he was unable to satisfy

himself that there was fluid in the pericardium. As the man was in great distress he opened first the basilic vein on one side, and then that on the other. After there had been a full flow of blood from the second opening the symptoms were relieved. The man fell asleep, and the cyanosis entirely disappeared. He (Prof. Bennett) was soundly abused at the time for not having followed the lead of the physician in the case. After three or four days the man had a second attack of the same kind. He (Prof. Bennett) was not in attendance at the time, and in two or three hours the man died. He (Prof. Bennett) made a *post-mortem* examination which disclosed an adherent pericardium and huge heart; and there was no doubt that if he had tapped him with a trocar and cannula he would have killed him on the spot.

MR. WHEELER said he had had experience in two cases. In one of them Dr. Gordon diagnosticated fluid in the pericardium, and the late Dr. M'Donnell tapped with his (Mr. Wheeler's) assistance. He performed three separate tapping operations, fluid coming each time; and on the third tapping there was pus. The form of operation adopted was to dilate an opening with a forceps, pass in a cannula, and pass through it a very fine probe. The gentleman made a rapid recovery, was well in three months, and was perhaps alive now. The other case was one which was treated by the late Dr. Stoney, and subsequently by Dr. Hudson and Dr. William Moore; and he (Mr. Wheeler) tapped once with an aspirator. The gentleman got quite well.

DR. TOBIN said the difficulty as to depth might be met by using an aspirator and needle; and as soon as the needle was inside the skin the aspirator should be turned on. The moment the needle entered the pericardium the flow of fluid would show that it need be pressed no farther.

SIR WILLIAM STOKES said it had never fallen to his lot to perform this operation, but it struck him as somewhat remarkable that in the cases mentioned by Mr. Meldon a single tapping should have been sufficient. In many cases it was sufficient; but they knew that cases of serous effusion occurred in which frequent tapping was necessary.

MR. HEUSTON said he did not believe in tapping the pericardium in a blindfold manner. When they were sure that there was only serous effusion they would be justified in using the trocar or aspirator in such a way as Mr. Meldon had adopted with such excellent results. But there were other cases in which the only proper thing for the operator to do was to make a free opening down to the pericardium, so as to be able to see what he was doing. In sup-

purative pericarditis it was absolutely necessary to make an incision at an early stage.

MR. MYLES asked could Mr. Meldon give any authentic information as to the exact extent to which displacement of the heart took place in his case, or in cases of the kind. Students were taught that in cases of pericardial effusion the apex of the heart was displaced upwards. If the heart simply lay in its normal place it would lie at the bottom of the fluid, and a displacement would take place in the thorax at the expense of the lungs. Again, with reference to the position to be selected for the insertion of the instrument, he wanted to know what was to become of the left pleura? He believed that in the majority of cases the trocar, if inserted at the spot indicated by Mr. Meldon, would invariably go through the left pleura.

MR. M'ARDLE remarked that the only person who seemed to know anything about the subject was the gentleman who read the paper; and he had the fact of success to support his position. Although knowing nothing of the subject, he (Mr. M'Arde) held that Mr. Meldon was justified in passing the trocar and cannula into the pericardium in the manner he had stated, for two reasons. First, because a safer exit for the contents of the pericardium was thereby obtained than by any other procedure. If the pleura was cut through in order to make a free opening before reaching the pericardium, the patient was exposed in a tenfold degree to the danger of an inflammatory attack. The question of depth was very easily determined. When the point of the instrument was found to be in connection with the fluid, there was no reason for going two inches into the thorax. He supported Mr. Meldon's position of tapping in preference to incision.

DR. TRAVERS SMITH asked did Mr. Meldon consider tapping for the second time more dangerous than the first tapping.

DR. TAYLOR said he recently saw a case in Sir Patrick Dun's Hospital which was under the care of Dr. Purser. It was that of a boy who had been four or five days there with symptoms of ordinary pericarditis. He was cyanosed, cold, covered with perspiration, and in a dying condition. He aspirated his pericardium by passing a needle into the fifth intercostal space close to the sternum, and fluid came out of a sero-fibrinous character, the factor of which was intolerable. Over a pint of fluid was drawn off, after which the boy seemed much better. He continued better for some hours, but the next morning suddenly got cyanosed and died. A *post-mortem* was made by Dr. Purser and Dr. Walter Smith, and on taking away the sternum and costal cartilages on each side they

found that the two pleural sacs had separated some distance from the middle line of the pericardium, and had come up behind the sternum and costal cartilages on both sides. So that neither of the pleural sacs would have been opened either by a needle or by any other instrument cutting down at the point selected. He agreed with Sir Thornley Stoker that there was no necessity for inserting any instrument so deep as two inches. In most cases one inch would be sufficient.

DR. JOHN W. MOORE remarked that in Murchison's text-book a distended pericardium was represented as displacing the liver downwards, so as to cause an apparent displacement of it, the tumour caused by the distending fluid pushing the left lung to the left, and the right lung to the right. That condition of things was sufficient to show that tapping might be performed with confidence within an inch of the sternum on the left side.

MR. MELDON, in reply, said the position of the patient was of great importance in determining the depth to which the instrument should be inserted. In the first case, while the patient was lying on his back, he only put in the trocar an inch and a half, and did not succeed in reaching the fluid. In that position, when the pericardium contracts as the fluid escapes, any lesser depth than two inches would result in the instrument parting company with it. Of course, he would not plunge a trocar in to that extent unless satisfied that there was effusion into the pericardium. In doubtful cases he would follow Mr. Tobin's suggestion. Selecting a No. 1 needle, and having created a vacuum in the aspirator, the instrument should be pushed in until the eye is covered and the stop-cock then turned on. The needle may now be pushed in to a reasonable distance in search of fluid. Even should the heart be touched by such a small instrument, it would not be so very serious as has been stated, especially as the left ventricle has been designedly punctured and the patient relieved by the operation. The direction, too, which he adopted in his cases is another point of safety. He was not aware of any case of rheumatic pericarditis in which a second tapping was required. The patient in the second case was kept in hospital for five weeks after the operation, because it was thought that all the fluid had not been drained off; but it never collected afterwards. Dr. Moore had answered Mr. Myles as regarded the anatomical conditions of the case. As to a second tapping being more dangerous than the first, he had never tapped a second time, so that he could not say whether it was or not. Statistics did not show it to be so. He had never, of course, attempted to tap unless he felt perfectly sure that there was fluid

in the pericardium. If he felt the smallest doubt that there was, he would not attempt to tap. In one of his cases the man's death was imminent from the pressure of the fluid, and he had not the smallest hesitation in going in the two inches. He would like, in reply to Dr. Smith, to say that there are two special points in reference to the signs of pericardial effusion to which he would draw attention. The first manifestation is increased broadening of the cardiac dulness at the lower portion—first to the left and then to the right, until there is absolute dulness in the fifth intercostal space in the region named by Ebstein—the cardiac hepatic angle. The second symptom to which he wished to refer is the occurrence of intermission of the pulse during inspiration at a time when the heart is beating without such intermission. Most of the other observations had reference to purulent pericarditis, which was not treated of in this paper, but he quite agreed with the opinions expressed that this condition is best treated by incision and drainage.

The Section then adjourned.

Friday, December 11, 1896.

The PRESIDENT in the Chair.

Acute Intestinal Obstruction.

MR. M'ARDLE read a paper based on the results obtained in the treatment of 41 cases of acute intestinal obstruction by operation. The cases included instances of obstruction by bands, intussusception, volvulus, acute enteritis, perforative peritonitis, and appendicular disease. Seven cases succumbed, but in no case that was not beyond recall, before opening the abdomen, did death occur. Mr. M'Ardle pointed out that the delay occasioned by trying medicine and enemata often placed the patient beyond the reach of surgery. Prolonged medical treatment he held was not justifiable, because, as noted by Treves, of 1,000 deaths from intestinal obstruction only 60 were from causes removable by medical means. The odds are all in favour of the obstruction being of such nature that surgical interference can alone avail. Mr. M'Ardle therefore regretted that some modern writers advocated persistent efforts with enemata, even after dangerous symptoms had shown themselves. Mr. M'Ardle recorded at length cases of acute internal strangulation in which great change was brought about in the injured intestines by irrigation with boiled saline solution, at a temperature of 100° F.

Mr. M'Ardle did not advocate indiscriminate laparotomy, but after calling attention to many cases of acute intestinal obstruction, in his hospital and private practice, in which death occurred before he had an opportunity of operating on the cases, he held that with the present safe methods of dealing with abdominal wounds and the rapidity with which Paul's tube, Murphy's button, and such appliances enable us to deal with lesions of the bowel, the intestines should be exposed much earlier and with greater frequency. The points on which Mr. M'Ardle laid greatest stress were—1st. That all fluids should be removed from the pelvis and loins by irrigation with sterile water. 2nd. That the circulation in the intestines should be restored and peristalsis established by irrigating with boiled saline solution before returning them to the abdomen. 3rd. That a tube passed through the rectum should be guided by the hand within the abdomen until flushing of the colon could be thoroughly carried out; this as an aid to reducing the intra-abdominal tension and easy return of protruded bowel. The writer concluded by laying down this rule:—"When a surgeon is called to a case of complete obstruction of the bowel which has resisted judicious medical treatment, and in which evidence of peritoneal effusion exists, it is his duty to operate at once."

The PRESIDENT said he did not think there would be any difference of opinion about the importance of the paper which had been read. Mr. M'Ardle was certainly to be congratulated upon the cases he had brought forward and the surgery he had adopted, but he was sorry he had not dealt with the symptoms or methods by which he arrived at the conclusion that those particular cases were cases for operation, and not treatable by ordinary methods. Granting that acute intestinal obstruction was recognised, everybody was at one with him as to the propriety of operating as quickly as possible. As to what might be called ordinary chronic constipation, if they were quite sure that it was that only with which they had to deal, the idea of opening the abdomen should not be entertained except in very extreme cases.

DR. MYLES thought that anyone who had expressed opinions there had no right to resent their being criticised. Speaking with the greatest deference, he thought the principle most persons would deduce from the paper referred to was that prolonged and patient trial with the long tube, used as a siphon, should be made before any resort to operative interference. The point which he would most gladly see emphasised in Mr. M'Ardle's paper was the extraordinary difficulty of accurate abdominal diagnosis. It was very easy to describe a case *post mortem*; but it was far otherwise

when the patient was lying before them collapsed, and the only available history was what was afforded by friends or relatives, or an imperfectly informed practitioner. As to Mr. M'Ardle's suggestion of making a second incision if necessary, and putting the hand into the abdomen, he (Dr. Myles) had frequently done that. Most of his operations for obstruction of the bowel had ended fatally, but perhaps most of the cases that he saw were too far advanced for operative interference to be useful. It should be observed, however, that operations in the country were generally conducted under the most disadvantageous circumstances, for, generally speaking, appliances and skilled assistants were wanting, and very often the condition of the patient was too far advanced for the operation to prove successful; besides, country practitioners, not having the necessary appliances, hesitated themselves to open the abdomen in time.

MR. TOBIN said he had often met with cases of obstruction; and he wished he had had behind him such a definite pronouncement as Mr. M'Ardle had made. Mr. M'Ardle had laid down that where there was obstruction, accompanied with distension of the abdomen and raised temperature, they should look for the cause of it by opening the abdomen. His statistics showed that the cases of obstruction caused by mere fæcal accumulation were few; but even these were often to be accounted for by some structure. If they applied to all cases of obstruction the rule that they applied in strangulated hernia they would do well. Who now hesitated to do taxis for the cure of strangulated hernia before any serious disturbance had taken place. An early operation in a great many cases of intestinal obstruction would effect a radical cure. The persons who were most afraid of laparotomy were those who began it too late. If it were commenced before peritonitis set in the operator was encouraged. He believed it would soon become the practice to operate at once in all cases where there was complete intestinal obstruction; for even if it should lead to the discovery of an incurable cancerous mass, an artificial anus could be made, and thus the patient would be the better of the operation.

MR. CROLY said that if Mr. M'Ardle's paper had been nothing more than a record of cases, it would have done great good by drawing more marked attention to the subject of acute intestinal obstruction. He (Mr. Croly) had never been more impressed by the similarity which existed between acute strangulated hernia and acute internal strangulation than he was on hearing Mr. M'Ardle's paper; and he concurred entirely with him as to the expediency, in such cases, of early laparotomy. The whole

question turned on diagnosis. For his part, he would open the abdomen as a means of diagnosis—in order to see what was there. That was much better in a case of acute internal strangulation than stupes, or leeches, or tubes, or turning the patient upside down and shaking him. He cast no slur on the physicians, but he concurred in the statement that they sometimes took charge of acute intestinal obstruction cases too long. So far as his (Mr. Croly's) experience led him, he was entirely an advocate for early laparotomy as a means of diagnosis in cases of acute intestinal obstruction.

MR. ALFRED SMITH said he assisted Mr. M'Ardle in operating on a case sent from Skerries, in which the patient was so bad that it was not necessary to administer ether before the operation; and he was greatly impressed by the remarkable change that was produced in the intestines by the use of the hot saline solution. It was exactly like the recovery from a cyanosed condition of a patient who had been given too much ether, after the ether bag had been withdrawn from his face. Mr. M'Ardle's experience bore out that of everyone who had anything to do with abdominal surgery, as to the great advantage of saline solutions. In all these cases of intestinal obstruction the possibility of tubal pregnancy should not be overlooked.

MR. HEUSTON said there was one point on which he (Mr. Heuston) did not agree with Mr. M'Ardle. The latter seemed to think that there was no such thing as secondary shock. He (Mr. Heuston) believed that after the operation a condition of things sometimes ensued which was a secondary shock, and of which the patient sometimes died. This might or might not result from the giving way of imperfect suturing; but he believed suturing could always be done in such a manner that there would be no fear of its giving way.

MR. BENNETT said what he would particularly emphasise was Mr. M'Ardle's practice of making a secondary opening. He (Mr. Bennett) had seen a good many laparotomy operations, but he was not acquainted with the practice in question until he saw it done by Mr. M'Ardle, and he was then struck with the great facility which it gave for reaching any fixed and unmanageable structure that might exist in the lower part of the colon, close to the sigmoid flexure, and which could not be brought to the mesian incision; and the facility it gave for evacuating or exposing the intestine.

MR. LENTAIGNE said he had himself done that very operation

of secondary incision precisely as Mr. M'Ardle recommended, and for the very same thing. Mr. M'Ardle had mentioned that in two of his cases the patients had free motions of the bowels before death. That was not like acute intestinal obstruction. He said he performed circumcision in other cases; but it appeared to him (Mr. Lentaigne) that that only added an unnecessary shock, where the desired result might be obtained by dilating the prepuce. However, all surgeons were agreed that in acute cases an early operation was necessary, and that delay was criminal. Mr. M'Ardle had not, however, shown where the line was to be drawn between cases which called for an operation and cases that did not. When volvulus or strangulation by a band could be diagnosticated, neither physician nor surgeon would hesitate about an operation. As to the technique of the operation, there was no difference between Mr. M'Ardle's methods and those which he (Dr. Lentaigne) had seen elsewhere, which included washing out with hot saline solutions, reviving collapse, and stimulating peristalsis.

DR. BOYD said there were very few physicians coming across acute intestinal obstruction who would be so blind as not to recognise the necessity for operative interference; and all surgeons were agreed that it should be done early. But the rule was to be taken with some restrictions—mere lodgments or accumulations should not be confounded with obstruction.

The PRESIDENT said one or two of the speakers seemed to think that he objected to the views of previous essayists being criticised there. On the contrary he had done it himself, and he hoped to do so again.

MR. M'ARDLE, in reply, said there was no man in the profession for whom he had a greater respect than the writer of the paper to which he referred, or in whose surgical acumen he had greater faith. A definite statement had been asked for as to what cases should be operated on. In most of the cases in which he had operated he did not know what he would find on opening the abdomen; but he did know that the peritoneal cavity contained fluid, that the bowels did not act, that the patient was in a state of collapse, or impending collapse, and that physic could do no good. He did not claim any originality as regarded the practice of secondary section of the abdomen; what he did in that particular case was on the spur of the moment, feeling himself otherwise cornered. Everyone knew that the danger of laparotomy was not great; the danger of not performing it was much greater. It had been said there was no use in operating when a patient was in a state of collapse, but he maintained that it was not too late until after the patient was dead. It was

never too late until the patient was almost cold. Dr. Henston struck the nail on the head when he said that the paper had been misunderstood; and it was with a view of placing it in a proper light that he had referred to it. It was of great value, because it taught two things to practitioners in the country—namely, first, the danger of O'Beirne's long tube; and secondly, the value of siphon distension of the bowel rather than distension by manual pressure. In the one case the pressure employed could be regulated; in the other they did not know what force they were using. As to "secondary shock" he did not know what was meant by the phrase. They could understand attributing death to a thrombus, or a clot in the heart, or to any other specific cause; but "secondary shock" meant nothing. The statistics he had given as to the comparative number of cases of obstruction and of fecal accumulation showed what scope there was for surgical interference.

The Section then adjourned.

SECTION OF OBSTETRICS.

President—LONGBE ATTHILL, M.D.

Sectional Secretary—F. W. KIDD, M.D.

Friday, November 27, 1896.

DR. HORNE in the Chair.

Exhibits.

DR. ALFRED SMITH exhibited a pair of suppurating ovarian dermoid cysts. He removed them from a woman, aged thirty. The leading symptoms from which she sought relief were a very heavy menstrual flow, lasting for ten days; dysmenorrhœa and dyspareunia; temperature was 100° at night and 99·6° in the morning. He put her under ether, and was at once able to map out two tumours apparently the right and left ovaries, about the size of goose eggs. He found extensive adhesions between the omentum and the tumours, and between the tumours and the rectum. On his separating the one to the right it burst, and the smell from it was very foetid. The pelvis was washed out with a saline solution and a drainage tube put in. He was happy to say that it proved one of the most aseptic operations he had ever performed. At no time did the temperature rise to 100°.

DR. F. W. KIDD exhibited an uterus which he had removed by

vaginal hysterectomy for cancer. The patient was thirty-five years of age. The only question was, whether or not there was a fair prospect of removing all the diseased tissue. She was placed under an anæsthetic, and after the pelvis had been examined he concluded that all the diseased portions of the organ could be removed. About the junction of the bladder with the urethra was a small nodule; and there was some difference of opinion as to its nature. The anterior wall of the vagina was easily drawn down, and the nodule, which proved to be a small cyst, was excised. The first intention was to ligature the uterine arteries and apply clamps higher up; yet when the tenaculum forceps was applied the tissue proved to be utterly rotten and broke away, consequently the procedure was reversed. The uterine arteries were clamped, and the lower portion of the uterus separated with a scissors. There was great difficulty in getting the fundus down, for its walls were extremely thick. It was finally inverted through the anterior incision in the vagina by means of vulsellum forceps, and the upper portion of broad ligaments was ligatured along with the vessels; both ovaries and tubes were also removed. The case made remarkably good progress, but four or five days after the operation her temperature varied between 100° and 102°, and it was found that there was a foetid discharge which arose from a portion of iodoform gauze which had been overlooked in the dressing. He neglected to make a note of the number of strips of gauze he had put on round the handles of the clamps; and in consequence of this, when they came to be removed, one was left in the vagina, and the result was extensive suppuration. A week after the operation, however, she was able to walk downstairs. He believed that all the diseased structure had been removed; and at the end of a fortnight she left the hospital perfectly well. The lesson to be learned from the accident in this case was that the number of dressings in an operation should always be counted and noted by the operator.

DR. ALFRED SMITH said he saw the operation, and every time that the cervix was gripped with the instrument a piece came away.

DR. WILSON said an accident similar to that mentioned by Dr. Kidd happened to him in an operation for the removal of an uterus which he performed with the assistance of Dr. Smyly. A clamp and gauze were applied to the ovarian artery on the left side; and in order to prevent the clamp from irritating the peritoneum, a second piece of gauze was put in. He removed the first gauze, but could not get the clamp away. Afterwards he succeeded in removing the clamp but the second gauze remained; and after the

tenth day the temperature began to rise, and on examination the second gauze was detected and removed. The woman was doing very well at present.

DR. JELLETT exhibited, for Dr. Smyly, two recent specimens. The first specimen consisted of a tumour of the left ovary the size of a large orange, and intimately connected with a large hydrosalpinx. The ovary and tube on the opposite side, which were enlarged owing to inflammation, were also shown. There was no difficulty in removing the large ovary and tube, but considerable trouble was experienced with the smaller one. They were sessile and closely adherent to the pelvic peritoneum. There were very dense adhesions above, between the intestines and the tube, which could not be broken down. In order to permit of their removal the peritoneum was divided horizontally along the anterior aspect of the broad ligament, and reflected upwards and downwards, the adhesions between the intestines and the peritoneum remaining intact. The tube was then shelled out, and bleeding vessels ligatured. The patient made an uninterrupted recovery.

The second specimen consisted of two enlarged and dilated tubes. The removal was exceedingly difficult. In consequence of oozing a drain of iodoform gauze was inserted into the pelvis and the abdominal wound sewn up. The patient was dressed on the second day in order to remove the drain, but it was found that it had slipped back into the abdominal cavity. The abdomen was in consequence opened, the gauze found after some difficulty, and the wound again closed. The patient went on well, with the exception of a slight attack of bronchitis, which caused considerable coughing. The sutures were removed from the abdominal wound on the eighth day, and the wound appeared healthy and perfectly united. The next day it was found that the wound had burst, and that the intestines were lying on the abdominal wall. She was again anæsthetised, the intestines and peritoneal cavity well washed with boric lotion, and the wound revived and resutured. She made an uninterrupted recovery, and the wound is now well healed.

A Case of Rigid Os. Discussion by Dührssen's Method.

DR. E. WINIFRED DICKSON read a paper on the above subject, of which the following is an abstract:—

The term "rigid os" may fairly be applied to the following case, for the pains during the whole labour were strong and frequent, so as to drive the head through the brim of the pelvis till it almost rested on the perinæum, and yet at the end of 96 hours the os only admitted three fingers, and the edges were hard and un-

yielding. The details are as follows:—Early on the 20th August, 1896, a local practitioner sent to the Coombe Lying-in Hospital for help, as he had a patient who had been in labour for 56 hours, and she was making no progress. I found a healthy primipara, aged twenty-four, having strong pains and straining violently. Temperature was 98.4° ; pulse 90; child was in first vertex position; head fixed; foetal heart good. There was plenty of liquor amnii, though membranes were said to have ruptured. The lower zone of the uterus was thinned out and tightly stretched over the head; cervical canal still unopened, barely admitting one finger. Morphia was administered hypodermically—at first $\frac{1}{4}$ gr., later on $\frac{1}{2}$ gr., and 12 hours later the cervical canal was obliterated, and the external os admitted two fingers. The head was still lower in the pelvis, and the liquor amnii had drained away. Chloral was then given, 15 grains every 15 minutes till 60 grains had been given, and later on a hot bath, hot douches and an enema. Twelve hours afterwards there was very little progress, and I advised operation on account of the risk of rupture of the thinned out lower zone of the uterus. With a view to this she was removed to the Coombe Hospital, when Dr. Kidd examined her. He advised trial of manual dilatation, and this was accordingly carried out. Another hot bath was also given, and repeated hot douches. Five hours later there was no progress; os only admitted three fingers; head and encircling cervix almost rested on the perinæum. The patient was then at the end of the 4th day in labour, her temperature rose to 99.2° F., and the foetal heart became very rapid. Operation was decided on. The patient was anæsthetised with chloroform, placed in the dorsal position, and disinfected. A duckbill speculum was inserted, and under the guidance partly of the eye and partly of the finger four incisions were made with blunt-pointed scissors, in crucial fashion, each about $1\frac{1}{2}$ to 2 inches long, dividing the cervix up to the vaginal junction. The tissues cut with a harsh grating sound. There was no bleeding. Forceps were then applied, and a female child easily delivered, but in a condition of white asphyxia. It was soon resuscitated, and weighed $6\frac{3}{4}$ lbs. Even after delivery there was scarcely any bleeding from the cut cervix. The uterus contracted well. After delivery of the placenta the incisions in the cervix were united with silver wire, nine sutures in all being inserted. The right lateral cut had torn slightly, the others had not torn at all beyond the original incisions. The perinæum required one stitch. The uterus and vagina were then douched with creolin solution, and an antiseptic pad applied to the vulva. Frequent vaginal douches were used during the puerperium, and

the patient made a perfectly aseptic recovery. The perineal stitch was removed on the 5th day and the cervical stitches on the 10th day, and union was perfect in all.

DR. KIDD said all the ordinary routine treatment short of surgical interference had been, in the first instance, exhausted, and then he was glad to allow Dr. Dickson to carry out the operation in question. From its results he should have great confidence in resorting to the same procedure in similar cases in future. Two or three years ago he read a paper before the Section giving a case of prolapsus of the cervix during labour, in which, owing to the rigidity of the cervix, it was carried down before the advancing head; and had he adopted the method now recommended of enlarging the outlet of the cervical zone, the case would not have ended in the tedious labour that occurred. He believed that when due precautions were taken to guard against any possibility of septic absorption the operation in question was comparatively free from risk.

DR. WILSON said he performed this operation about a year ago in a case of rigid os. The special object in the case was to effect a rapid delivery. The os was very small, and the cervix was slit up with four incisions and delivery effected, but the child was dead, and had been, before the operation. The cervix was stitched with gut, and the woman was still alive. The ease and simplicity of the operation in question were in its favour, but he thought it should be confined to urgent cases, or cases of cancerous affection. To suture the cervix was the correct mode of proceeding, if only for aseptic reasons.

DR. JELLETT held that in cases where there were the proper indications for this operation it should be resorted to without previous manual dilatation, which was attended with risk.

DR. KNOTT asked Dr. Dickson did she think mental causes had anything to do with the rigidity of the os in the case she had detailed.

DR. DOYLE thought the term "discission" was one that needed explanation.

The CHAIRMAN said that from time to time he had come across cases of so-called rigid os, and he did not know of any more troublesome cases. They generally occurred in primiparæ, which was hard to explain, unless it arose from some cicatricial tissue infiltrating the cervix. But he had never seen a case of rigid os that did not yield to time, patience, sedatives, and hot baths. In the Rotunda Hospital the late Dr. G. Johnston advocated an early application of the forceps before the os was fully dilated, the process

being to put the patient under an anæsthetic, apply the forceps, and leave them in without making traction. They then acted as a dilator of the best form for a condition of rigidity of the os; and when the os began to yield, a gentle traction of the instrument invariably made it slip over the child's head without inflicting a wound on the cervix. He could understand, however, the applicability of Dührssen's method to cases where the necessity for immediate delivery was urgent, or to cases of cancer with infiltration of the tissue, or cases where there was cicatricial tissue of the cervix arising from previous wounds.

DR. DICKSON, in reply, said she had no facts as to the mental history of her patient. Barnes's bags had been mentioned by one speaker, but she had never seen them used.

Three Cases of Ectopic Gestation.

DR. KIDD read a paper detailing three cases of Ectopic Gestation. [It will be found at p. 193.]

As there were two other papers on the same subject, the discussion was deferred until after the reading, at the next meeting of the Section, of these two papers.

The Section then adjourned.

HEREDITARY CRIME.

THE following, taken from the *Medical Press*, compiled by Professor Belman, of the University of Bonn, relates the career of a notorious drunkard who was born in 1740 and died in 1800. Her descendants numbered 834, of whom 709 have been traced from their youth. Of these 7 were convicted of murder, 76 of other crimes, 142 were professional beggars, 64 lived on charity, and 181 women of the family led disreputable lives. The family cost the German Government for maintenance and costs in the courts, almshouses, and prisons no less a sum than 1,250,000 dollars; in other words, just a fraction under 1,500 dollars each.—*Med. Rec.*

STARVATION TANNER.

THIS gentleman, for whom, says the *Medical Record*, starvation had no terrors, has perished by flame, according to a dispatch from Akron, O., he having been burnt to death in a conflagration in that city on the 21st Oct., 1896.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
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VITAL STATISTICS

For four Weeks ending Saturday, January 30, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Jan. 9	Jan. 16	Jan. 23	Jan. 30		Jan. 9	Jan. 16	Jan. 23	Jan. 30
Armagh -	28·0	35·1	35·1	35·1	Lisburn -	34·1	21·3	21·3	46·8
Ballymena	33·8	33·8	22·5	11·3	Londonderry	18·8	29·8	31·4	36·1
Belfast -	28·3	26·7	35·4	34·5	Lurgan -	13·7	31·9	36·5	13·7
Carrickfergus	35·1	40·9	11·7	23·4	Newry -	20·1	24·1	32·2	24·1
Clonmel -	30·7	12·3	12·3	117·1	Newtownards	28·3	28·3	22·7	22·7
Cork -	20·1	22·8	29·8	36·0	Portadown -	30·9	30·9	49·5	30·9
Drogheda -	13·2	30·7	22·0	34·2	Queenstown	23·0	45·9	40·2	23·0
Dublin -	34·6	33·9	42·4	41·3	Sligo -	30·5	15·2	40·6	40·6
Dundalk -	8·4	25·1	20·9	8·4	Tralee -	5·6	—	16·8	33·6
Galway -	41·5	30·2	41·5	11·3	Waterford -	52·5	20·0	30·0	15·9
Kilkenny -	9·4	28·3	18·9	33·0	Wexford -	36·1	27·1	22·6	40·6
Limerick -	32·3	25·3	35·1	21·1					

In the week ending Saturday, January 9, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 18·5), was equal to an average annual death-rate of 19·3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·8 per 1,000. In Glasgow the rate was 25·9. In Edinburgh it was 19·0.

The average annual death-rate represented by the deaths registered

during the week in the twenty-three principal town districts of Ireland was 29·6 per 1,000 of the population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 3·6 per 1,000, the rates varying from 0·0 in thirteen of the districts to 12·4 in Portadown,—the 5 deaths from all causes registered in that district comprising 2 from measles.

Among the 153 deaths from all causes registered in Belfast are 6 from measles, 1 from scarlatina, 8 from whooping-cough, 1 from simple continued fever, 2 from enteric fever, and 1 from diarrhoea.

The 29 deaths in Cork include 2 from whooping-cough. The 23 deaths in Limerick include 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 182—104 boys and 78 girls; and the registered deaths to 236—125 males and 111 females.

The deaths, which are 19 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 85·2 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 34·6 per 1,000.

Forty-eight deaths from zymotic diseases were registered, being 6 over the number for the preceding week, and 27 above the average for the first week of the ten years 1887–1896. The 48 deaths include 9 from measles, 4 from scarlet fever (scarlatina), 1 from typhus fever, 1 from influenza, 19 from whooping-cough, 4 from enteric fever, and 3 from diarrhoea and dysentery.

Four cases of enteric fever were admitted to hospital against 11 admissions in the preceding week. Eight enteric fever patients were discharged and 46 remained under treatment on Saturday, being 4 under the number in hospital on that day week.

The number of cases of scarlatina admitted to hospital was 38, being 17 over the admissions in the preceding week. Forty-four patients were discharged, 2 died, and 185 remained under treatment on Saturday, being 8 under the number in hospital on that day week. This number is exclusive of 13 convalescents at Beneavin Convalescent Home, Glasnevin.

Seventy-eight cases of measles were admitted to hospital, while in the 3 preceding weeks the numbers were 44, 36, and 99 respectively. Thirty-one patients were discharged and 9 died, while 200 remained under treatment on Saturday, being 38 over the number in hospital at the close of the preceding week.

Six cases of typhus were admitted to hospital, and 16 patients remained under treatment at the close of the week.

Fifty-nine deaths from diseases of the respiratory system were registered, being 1 under the average for the first week of the ten years 1887-1896, and 7 under the number for the previous week. The 59 deaths include 41 from bronchitis and 14 from pneumonia.

In the week ending Saturday, January 16, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 19·2 per 1,000 persons living. The average rate for eight principal towns of Scotland was 21·9 per 1,000. In Glasgow the rate was 23·5, and in Edinburgh it was 20·3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 28·9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·0 per 1,000, the rates varying from 0·0 in thirteen of the districts to 12·4 in Portadown—the 5 deaths from all causes registered in that district comprising 2 from measles.

Among the 144 deaths from all causes registered in Belfast are 6 from whooping-cough, 3 each from measles and scarlatina, and 2 each from enteric fever and diarrhoea. The 33 deaths in Cork comprise 1 from measles, but among the 18 deaths in Limerick there was no case of zymotic disease.

In the Dublin Registration District the registered births amounted to 231—131 boys and 100 girls; and the registered deaths to 233—106 males and 127 females.

The deaths, which are 12 under the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·8 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 33·9 per 1,000.

Fifty-seven deaths from zymotic diseases were registered, being 9 over the number for the preceding week, and 29 over the average for the 2nd week of the ten years 1887-1896. The 57 deaths include 9 from measles, 5 from scarlet fever (scarlatina), 2 from typhus fever, 27 from whooping-cough, 2 from enteric fever, 2 from diarrhoea, and 5 from influenza.

Ninety-three cases of measles were admitted to hospital, being

15 over the admissions in the preceding week. Sixty-one patients were discharged and 5 died, while 227 remained under treatment on Saturday, being 27 over the number in hospital at the close of the preceding week.

Twenty-eight scarlatina patients were admitted to hospital, being 10 under the number admitted in the preceding week. Forty-four patients were discharged and 4 died, while 165 remained under treatment on Saturday, being 20 under the number in hospital on that day week. This number is exclusive of 10 convalescents in the Beneavin Convalescent Home, Glasnevin.

Three cases of enteric fever were admitted to hospital against 4 cases in the preceding week. Seventeen enteric fever patients were discharged, and 81 remained under treatment on Saturday, being 15 under the number in hospital on that day week.

Three cases of typhus were admitted to hospital, 3 were discharged, 2 died, and 14 remained under treatment at the close of the week.

Fifty-two deaths from diseases of the respiratory system were registered, being 21 under the average for the second week of the ten years 1887-1896, and 7 under the number for the previous week. The 52 deaths include 30 from bronchitis, 18 from pneumonia, and 2 from croup.

In the week ending Saturday, January 23, the mortality in thirty-three large English towns, including London (in which the rate was 18·1), was equal to an average annual death-rate of 19·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·6 per 1,000. In Glasgow the rate was 28·9, and in Edinburgh it was 22·2.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 35·8 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·5 per 1000, the rates varying from 0·0 in fourteen of the districts to 12·4 in Portadown—the 8 deaths from all causes registered in that district comprising 1 from measles and 1 from whooping-cough. Among the 191 deaths from all causes registered in Belfast are 8 from measles, 1 from scarlatina, 7 from whooping-cough, 1 from simple and ill-defined fever, and 2 from enteric fever. Among the 43 deaths in Cork are 2 from whooping-cough, and among the 11 deaths in Galway are 2 from scarlatina and 1 from simple continued and ill-defined fever.

Two deaths from whooping-cough and 1 from diarrhoea occurred in Newry, out of a total of 8 deaths from all causes.

In the Dublin Registration District the registered births amounted to 205—99 boys and 106 girls; and the registered deaths to 294—153 males and 141 females.

The deaths, which are 51 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 43·9 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 42·4 per 1,000. During the three weeks of the current year the death-rate averaged 38·0, and was 8·0 over the mean rate in the corresponding period of the ten years 1887–1896.

Sixty-three deaths from zymotic diseases were registered, being 6 over the number registered in the preceding week, and 36 in excess of the average for the 3rd week of the last ten years. The 63 deaths comprise 15 from measles, 4 from scarlet fever (scarlatina), 1 from typhus fever, 23 from whooping-cough, 1 from diphtheria, 1 from simple continued and ill-defined fever, 2 from enteric fever, 10 from diarrhoea and dysentery (including 3 from dysentery which took place in the Richmond District Lunatic Asylum), 2 from erysipelas, 1 from septicaemia, and 8 from other zymotic diseases.

Sixty-eight cases of measles were admitted to hospital, being 25 under the admissions in the preceding week. Forty-four patients were discharged and 6 died, while 245 remained under treatment on Saturday, being 18 over the number in hospital at the close of the preceding week.

Twenty-one scarlatina patients were admitted to hospital, being 7 under the number for the preceding week: 32 patients were discharged and 5 died during the week, while 149 remained under treatment on Saturday, being 16 under the number in hospital on that day week. This number is exclusive of 17 convalescents under treatment in Beneavin Convalescent Home, Glasnevin.

Six cases of enteric fever were admitted to hospital, being 3 in excess of the number admitted in the preceding week. Six patients were discharged, and 31, as on the previous Saturday, remained under treatment at the end of the week.

Four cases of typhus were admitted to hospital, and 13 patients remained under treatment at the close of the week.

The number of deaths from diseases of the respiratory system registered was 80, being 28 over the number for the preceding week, and 8 over the average for the third week of the previous

ten years. The 80 deaths include 55 from bronchitis, 20 from pneumonia, and 2 from pleurisy.

In the week ending Saturday, January 30, the mortality in thirty-three large English towns, including London (in which the rate was 19·9), was equal to an average annual death-rate of 20·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·3 per 1,000. In Glasgow the rate was 26·3, and in Edinburgh it was 23·3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 35·6 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 4·8 per 1,000, the rates varying from 0·0 in fourteen of the districts to 19·5 in Clonmel—the 24 deaths (all occurring in public institutions) registered in that district comprising 1 from scarlatina, 1 from diphtheria, 1 from enteric fever, and 1 from diarrhoea. Among the 186 deaths from all causes registered in Belfast are 8 from measles, 3 from scarlatina, 5 from whooping-cough, 5 from enteric fever, and 1 from diarrhoea. The 52 deaths in Cork comprise 7 from measles, 1 from whooping-cough, 1 from diphtheria, and 1 from diarrhoea. Among the 6 deaths in Tralee are 1 from measles and 2 from diarrhoea.

In the Dublin Registration District the registered births amounted to 195—102 boys and 93 girls; and the registered deaths to 284—136 males and 148 females.

The deaths, which are 60 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 42·4 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 41·3 per 1,000. During the first four weeks of the current year the death-rate averaged 39·1, and was 4·5 above the mean rate in the corresponding period of the ten years 1887–1896.

Fifty-nine deaths from zymotic diseases were registered, being 4 under the number in the preceding week, but 32 in excess of the average for the fourth week of the last ten years. The 59 deaths comprise 7 from measles, 6 from scarlet fever (scarlatina), 1 from typhus fever, 27 from whooping-cough, 1 from enteric fever, 4 from diarrhoea, 2 from erysipelas, 5 from influenza, 1 from mumps, and 1 from German measles.

One hundred and four cases of measles were admitted to hospital, being 36 over the admissions in the preceding week. Eighty-nine

patients were discharged and 4 died, while 256 remained under treatment on Saturday, being 11 over the number in hospital at the close of the preceding week.

Nineteen scarlatina patients were admitted to hospital, being 2 under the admissions in the preceding week. Forty-three patients were discharged and 5 died, while 120 remained under treatment on Saturday, being 29 under the number in hospital on the preceding Saturday. Eighteen convalescents in addition were under treatment at Beneavin, Glasnevin.

Thirteen cases of enteric fever were admitted to hospital, being 7 in excess of the number for the preceding week. Eight patients were discharged, and 36 remained under treatment on Saturday, being 5 over the number in hospital on the previous Saturday.

No case of typhus was admitted to hospital, and only 9 cases remained under treatment on Saturday.

The number of deaths from diseases of the respiratory system registered was 86, being 6 over the number for the preceding week, and 25 over the average for the fourth week of the last ten years. The 86 deaths comprise 67 from bronchitis and 14 from pneumonia.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of January, 1897.

Mean Height of Barometer, -	-	-	29·918 inches.
Maximal Height of Barometer (on 1st, at 9 p.m.)	30·434	„	
Minimal Height of Barometer (on 30th, at 7 30 a.m.), -	-	-	29·284 „
Mean Dry-bulb Temperature, -	-	-	37·3°.
Mean Wet-bulb Temperature, -	-	-	35·9°.
Mean Dew-point Temperature, -	-	-	33·9°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·197	inch.	
Mean Humidity, -	-	-	88·0 per cent.
Highest Temperature in Shade (on 3rd), -	51·3°.		
Lowest Temperature in Shade (on 17th), -	25·0°.		
Lowest Temperature on Grass (Radiation) (on 17th), -	-	-	21·2°.
Mean Amount of Cloud, -	-	-	61·0 per cent.
Rainfall (on 17 days), -	-	-	2·694 inches.
Greatest Daily Rainfall (on 6th), -	-	-	·579 inch.
General Directions of Wind, -	-	-	W.N.W., E.S.E.

Remarks.

Opening with a brilliantly fine day, January, 1897, proved a cold, changeable month. Between the 3rd and the 10th, inclusive, there was an abundant rainfall with S.E. winds, owing to the presence of depressions over the Atlantic off the S.W. of Ireland. The weather was open at this time, but after the 14th frequent frosts occurred; and a good deal of snow fell from time to time, particularly in the N. of Scotland, where the weather was at times extremely severe.

In Dublin the arithmetical mean temperature (38.1°) was much below the average (41.4°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 37.3° . In the thirty-two years ending with 1896, January was coldest in 1881 (M. T. = 33.2°), and warmest in 1875 (M. T. = 46.6°). In 1895 the M. T. was 35.4° , and in 1896 it was 44.3° . As a general rule, January in Dublin is not colder, but a shade warmer, than December. This is owing to the full development in January of a winter area of low pressure over the Atlantic, to the northwestward of the British Isles, and to a resulting prevalence of S.W. winds in their vicinity. January, 1897, proved an exception to this rule, the M.T. being 3.3° below that of December, 1896 (41.4).

The mean height of the barometer was 29.918 inches, or 0.044 inch above the corrected average value for January—namely, 29.874 inches. The mercury rose to 30.434 inches at 9 p.m. of the 1st, and fell to 29.284 inches at 7.30 a.m. of the 30th. The observed range of atmospheric pressure was, therefore, 1.150 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 37.3° , or 3.5° below the value for December, 1896. Using the formula, *Mean Temp.* = *Min.* + (*max.* - *min.* $\times .52$), the M. T. becomes 38.3° , compared with a twenty-five years' average of 41.5° . The arithmetical mean of the maximal and minimal readings was 38.1° , compared with a twenty-five years' average of 41.4° . On the 3rd the thermometer in the screen rose to 51.3° —wind, S. to S.W.; on the 17th the temperature fell to 25.0° —wind, W. The minimum on the grass was 21.2° , also on the 17th.

The rainfall was 2.694 inches, distributed over 17 days. The average rainfall for January in the twenty-five years, 1865-89, inclusive, was 2.200 inches, and the average number of rainy days was 17.3. The rainfall, therefore, was above, while the rainy days were equal to, the average. In 1877 the rainfall in January was very large—4.322 inches on 25 days; in 1869, also, 4.258 inches

fell—on, however, only 18 days. But the record rainfall for January was in 1895—namely, 5·711 inches on 24 days, or nearly eight times as much as the rainfall for January, 1896 (·720 inch). In 1876 only ·406 inch was measured on but 9 days; and in 1880 the rainfall was only ·563 inch on but 8 days.

The atmosphere was foggy on the 5th, 10th, 11th, 12th, 15th, 16th, 17th, 18th, and 27th. High winds were noted on 11 days, reaching the force of a gale on 4 days—the 5th, 6th, 7th, and 22nd. Snow or sleet fell on the 16th, 22nd, 23rd, 25th, and 26th. Hail fell on the 15th, 20th, 22nd, 23rd, and 25th. Temperature exceeded 50° in the screen on only 2 days—the 2nd and 3rd; while it fell to or below 32° in the screen on 13 nights, compared with only 3 nights in 1896, 18 in 1895, 7 in 1894, 4 in 1893, 15 in 1892, 7 in 1891, 1 night in 1890, and 3 nights in 1889. The minima on the grass were 32° or less on 21 nights, compared with 8 nights in 1896, 29 in 1895, 17 in 1894, 16 in 1893, 25 in 1892, 21 in 1891, 15 in 1890, and 16 in 1889.

New Year's Day, 1897, was brilliantly fine—not a cloud showed in the sky from morning till night. Saturday, the 2nd, was less fair, but on the whole fine and mild, although at times cloudy.

Interesting from a meteorological point of view, the weather of the week ended Saturday, the 9th, was very unsettled and inclement. At the beginning of the period depressions were still passing northwards outside the Western Coasts of Ireland and Scotland, so that S. and S.W. winds prevailed, with rains and bright intervals alternately. Monday was fair and sunny in Dublin, although a heavy dash of rain occurred in the evening. Tuesday broke cold, damp, and foggy, and as the day advanced the wind became S.E. and freshened until at night it blew a gale with heavy rain. From that time to the close of the week, storm, gloom, and rain were paramount. This state of things was brought about by the gradual advance across Northern Europe south-westwards of an anticyclone, in which the barometer rose above 30·70 inches in Sweden on Friday morning; while, at the same time, deep depressions approached the S.W. of Ireland on Wednesday morning (barometer down to 28·99 inches at Valentia Island) and the mouth of the English Channel on Friday morning. The north-easterly course of the system in each case was arrested by the high pressure area over Scandinavia. Gales from S.E. to E. prevailed, the sky remained densely clouded, and rain fell in large quantities, especially in the S.W. and S. of England and the S. and E. of Ireland. Temperature gave way considerably on Friday and Saturday, which were dull and cold in the extreme. In Dublin the mean height of the barometer

was 29·708 inches, pressure ranging between 29·985 inches at 9 a.m. of Sunday (wind, S.) and 29·452 inches at 9 p.m. of Wednesday (wind, E.S.E.). The corrected mean temperature was 43·3°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 42·0°. On Sunday the screened thermometers rose to 51·3°. On Tuesday they fell to 33·1°. Rain fell daily to the total amount of 1·771 inches, ·579 inch being measured on Wednesday. The prevailing winds were S.S.W., S.E., and E.

Much finer and generally colder weather was experienced in the period ended Saturday, the 16th. Until Tuesday the distribution of atmospheric pressure remained much the same as it had been during the previous week. Thus, an anticyclone was found over Scandinavia and the North of Russia, while the barometer was relatively low to the S.W. of our Islands. Gradients, however, were not at all so steep, and the S.E. gales accordingly subsided. Sunday was gloomy, damp, and finally wet and foggy in Dublin. Gloom and fog prevailed also on Monday. On Tuesday a new depression appeared off the coast of Kerry, renewing the strong S.E. winds and bringing a considerable fall of rain to the County Cork. A complete change now took place. The Scandinavian anticyclone moved away eastwards and partially dispersed, while a new area of high barometer advanced upon the N.W. of Ireland from the Atlantic. This system developed rapidly until on Thursday morning the barometer rose above 30·40 inches in the West of Ireland. Light to moderate N.E. winds resulted, and showers of hail and snow began to fall along the east coast of both Great Britain and Ireland. In Dublin the ground was covered with snow on Saturday morning, and calms and dense fogs prevailed. The mean height of the barometer at this station was 29·965 inches, pressure ranging between 29·544 inches at 9 a.m. of Sunday (wind, S.E.) and 30·380 inches at 9 a.m. of Thursday (wind, N.). The corrected mean temperature was 38·3°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 36·7°. On Monday the screened thermometers rose to 44·6°, on Saturday they fell to 29·1. The rainfall was ·097 inch on two days, ·076 inch being measured on Sunday. The prevalent winds were S.E. and afterwards N.W. A little hail fell on Friday, snow on Saturday.

During the week ended Saturday, the 23rd, cold, and at times very cold, weather prevailed, and at its close snow lay thickly on the ground in most districts. On Sunday a very sharp frost occurred in Dublin, the thermometer falling to 25·0° in the screen and to 21·2° on the ground. A beautiful sunny, yet frosty, day followed. On Monday morning sharp frost was reported from England, while

the cold relaxed in both Scotland and Ireland. The northern half of the British Isles now came under the influence of an arm of high atmospheric pressure, which stretched across the North Sea from Scandinavia. At the same time the barometer fell in France as depressions moved north-eastwards across the Peninsula and the Mediterranean. As a result, strong easterly winds set in on Tuesday night, accompanied by bitterly cold weather and showers of hail and sleet or snow. At 8 a.m. of Wednesday the barometer stood a little above 30·5 inches in the Hebrides. This system of high pressure afterwards moved southwards and dispersed, while a rapid reduction of pressure over Scandinavia took place and a well-marked cyclonic system travelled southwards across Central Europe during the last two days of the week. This disturbance brought northerly and north-easterly gales to the British and Irish coasts, as well as heavy falls of snow and hail. In Dublin a small blizzard was felt on Friday afternoon, and at 3·40 p.m. a bright flash of lightning was quickly followed by a loud peal of thunder. On Saturday snow lay in this city to the depth of about 2 inches. The mean atmospheric pressure was 30·092 inches, the barometer rising to 30·238 inches at 9 a.m. of Wednesday (wind, E.N.E.), and falling to 29·744 inches at 11 p.m. of Thursday (wind, W.N.W.). The corrected mean temperature was 35·1°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 34·8°. On Sunday the screened thermometers fell to 25·0°, on Wednesday they rose to 42·0°. The rainfall (which consisted chiefly of snow and hail) was equal to ·280 inch, ·218 inch being measured on Friday. There were three "rainy" days. The prevalent wind was N.E. Thunder and lightning occurred on Friday.

Cold, changeable weather prevailed throughout the week ended Saturday, the 30th. After Thursday, however, the frost broke up, and a considerable fall of rain occurred on Friday night and Saturday morning in connection with a large and deep atmospheric depression which crossed the British Islands towards the east at that time. Sunday opened with sharp frost, but a rapid thaw set in as the day advanced, and there were light showers of rain in the afternoon. These changes were due to the approach of a deep depression, which lay over the Shetlands on Monday morning, when the barometer was down to 28·95 inches at Sumburgh Head. The system subsequently crossed the North Sea in a south-easterly direction. It caused a violent snowstorm and severe frost in the North of Scotland—the melted snow yielded 1·5 inches of rain in the gauge at Wick on Tuesday morning. This represents some 18 inches of snow on the level. On Wednesday a high pressure

system appeared off the West of Ireland and the weather moderated. A gradual rise of temperature now took place, spreading south-eastwards over the kingdom. On Friday the anticyclone in the West dispersed as a new and deep depression approached Ireland from the Atlantic. In front of the disturbance the wind for a while backed to S., and rain set in with a further increase of temperature—in Dublin, however, only to 42.8° . Early on Saturday the wind again veered to N.W. in the rear of the centre of low pressure, and temperature gave way—sleet and snow falling on the Dublin and Wicklow mountains. The mean barometric pressure was 29.854 inches, the observed range being from 30.303 inches at 9 p.m. of Wednesday (wind, W.N.W.), to 29.284 inches at 7.30 a.m. of Saturday (wind, N.W.). The corrected mean temperature was 35.5° . The mean dry bulb reading at 9 a.m. and 9 p.m. was 34.3° . On Sunday the screened thermometers fell to 25.9° , on Saturday they rose to 43.8° . The rainfall was .261 inch on four days, .190 inch being registered on Friday. The prevalent wind was W.N.W.

Sunday, the 31st, was fair to cloudy, overcast, and finally rainy.

In Dublin the rainfall up to January 31st, 1897, amounted to 2.694 inches on 17 days, compared with 5.711 inches on 24 days in 1895, only .720 inch on 14 days in 1896, and with a twenty-five years' average (1865–1889) of 2.200 inches on 17.3 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall was 3.660 inches on 20 days, compared with only .485 inch on 7 days in 1896, and 6.190 inches on 19 days in 1895. The heaviest falls in 24 hours were .580 inch on the 5th, and .620 inch on the 6th.

At Cloneevin, Killiney, Co. Dublin, the rainfall was 3.060 inches on 20 days, .650 inch being measured on the 6th. The average fall for the 12 years, 1885–1896, was 2.235 inches on 16.5 days. Snow fell on the 14th, 15th, and 22nd. In 1894 the rainfall was 3.260 inches on 23 days, in 1895 it was 5.930 inches on 24 days, in 1896 it was .700 inch on 9 days. In 1891 only .47 inch fell on, however, 11 days.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell on 19 days in January, the total measurement being 3.878 inches. On the 5th, .560 inch was registered; on the 6th, .520 inch; and on the 3rd, .510 inch. At this climatological station the thermometer in the screen sank to 32° or lower on 10 nights. The highest temperature in the shade was 47.0° on the 7th; the lowest was 25.8° on the 24th. Snow fell on the 16th, 22nd, 24th, and 25th.

PERISCOPE.

ANTITOXIN.

WE learn from a note in the *Occidental Medical Times* that the American Pediatric Society is organising a second collective investigation into the curative power of antitoxin, with especial reference to laryngeal diphtheria. The present aim is to ascertain—(1) What percentage of cases of laryngeal diphtheria recover without operation under antitoxin treatment. (2) What percentage of operated cases recover. The second report is designed to be a study of cases occurring between the closing of the first report (May 1, 1896) and the closing of the present collective investigation (April 1, 1897).

HEALTH OF THE UNITED STATES ARMY.

IN the report of the Surgeon-General of the Army for the year ended on June 30th, 1896, it is stated that the health of the army was better last year than ever before. Dr. Sternberg writes: "All the rates that are usually considered by statisticians as throwing light on the physical condition of a community have been lower than in any previous year of the recorded history of our army. The number constantly sick was 33·89 per thousand of strength, as compared with 34·49 during 1894, and 41·87 as the average annual rate of the preceding ten years. The mortality rate from all causes was 5·16 per thousand of strength, as compared with 6·69 in 1894 and 7·85 for the preceding decade. The lowest previous rate was 6·35, in 1889."—*Med. Rec.*

FLOWERS IN BEDROOMS.

AN American actress, it is announced, has recently escaped death only by a hairsbreadth in consequence of the too oppressive odour of violets in her bedroom. An enthusiastic admirer having sent her a large hamper full of violets, she distributed the flowers in vases about her bedroom, and, after shutting down her window, went to sleep. Next morning she was discovered in a collapsed condition, and was with the greatest difficulty brought back to life. This is an American story, and may perhaps be questioned by the sceptical. But the present writer well remembers a similar experience which was related to him by the late Sir Andrew Clark, not long before his death. Sir Andrew was called to a patient who had been

suffering some days with obscure internal symptoms, of which the family doctor had failed to find the cause. The great physician examined the patient in turn, and could not satisfy himself as to the exact nature or cause of the attacks. He, however, prescribed, and hoped for the best. A few days afterwards he was called again, the patient being manifestly in a very dangerous condition; and, again, after making the most thorough investigation of the patient and attendant circumstances, failed to satisfy his judgment as to the true nature or the cause of the illness. Being thus brought to a dead stand, Sir Andrew looked round the room to see if he could find evidence of the presence of damp or mould. All the walls were dry, and the place seemed in every way healthy. Proceeding to investigate further, he found, hidden away out of sight, a vase of drooping flowers—hyacinths, if memory serves correctly—several days old. The water in the vase, or what was left of it, was of a very offensive odour. Thereupon a change of room was ordered for the patient, with the result that recovery commenced at once, and was complete within a very few days. The rule should be that, where flowers are kept in bedrooms, they should be changed frequently, and those which yield a heavy odour should not be preserved after the day is over. In sittingrooms the case is somewhat different; but even in them flowers should not be kept for more than a few days, and the vases in which they are placed should be well washed out with hot water once or twice a week.—*The Hospital.*

SYMPHYSEOTOMY.

DR. MAYARIET (*L'Obstétrique*, January, 1896) says that the most recent statistics are as yet somewhat discouraging. Neugebauer gives a maternal mortality of 11·1 per cent., and that of the child 19 per cent. The operations of M. Pinard and his followers in the last four years have given a mortality of 10·14 per cent. for the mothers and of 11·59 per cent. for the children. Perhaps this mortality would diminish considerably if all operators were careful and abstained from interfering whenever any unfavourable condition exists in mother or child which would compromise the success of the operation.—*Med. Rec*

ECLAMPSIA.

THE *Gazette Médicale de Paris* gives prominence to the Russian physician Schmoukler's views as to the pathogeny of puerperal eclampsia. Menstruation, he thinks, frees the organism from certain toxic products of organic decompositions in the system. During pregnancy these products accumulate. The condition may be

aggravated by renal incompetence. Hence eclampsia occurs only in the pregnant or the recently delivered. Hence, too, it may occur without any lesion of the kidneys. The indication, therefore, for prevention is to eliminate these toxic products by sudorifics—warm baths, blankets, pilocarpin. If the kidneys are suspected, mild diuretics, laxatives, milk diet will aid. If such prevention fails and an attack occurs the same treatment should be pursued with greater vigour. In extreme cases premature labour must be induced.

INDIAN MEDICAL SERVICE.

THE Military Secretary, India Office, London, S.W., forwards the following official list of the candidates for Her Majesty's Indian Medical Service who were successful at the Competitive Examination held in London on February 5, 1897, and following days:—

	Marks obtained		Marks obtained
1. Murray, F. G. P.	- 2,823	5. Dredge, J. A.	- 2,574
2. Anderson, S.	- 2,814	6. Knox, R. W.	- 2,530
3. Hutchinson, F. H. G.	2,646	7. Fenton, A.	- 2,506
4. Marjoribanks, J. L.	- 2,603		

ARMY MEDICAL STAFF.

THE following is the official list of successful candidates for Commissions in the Army Medical Staff at the examination held in London in February, 1897:—

Order of Merit	Names	Marks	Order of Merit	Names	Marks
1.	Cummins, L. H.	- 2,272	8.	Walker, J. G.	- 2,005
2.	Hopkins, C. H.	- 2,207	9.	Stallard, H. G. F.	- 1,948
3.	M'Ardle, J.	- 2,159	10.	Jephson, L. D.	- 1,887
4.	Mackessack, P.	- 2,158	11.	Norrington, H. L. W.	1,876
5.	Hearn, L. J. C.	- 2,143	12.	Poe, J.	- 1,847
6.	M'Carthy, J. M'D.	2,065	13.	Crean, J.	- 1,828
7.	Brodrigg, E.	- 2,055	14.	Bowen, A. W. N.	- 1,809

ARMY MEDICAL SCHOOL, NETLEY.

BRITISH MEDICAL SERVICE.—The following is the official List of Surgeons on Probation of the Medical Staff of the British Army who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to

those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

January 30th, 1897.

	Combined Marks.		Combined Marks.
* 1. Stammers, G. E. F.	5889	7. Bliss, E. W.	4004
2. Wanhill, C. F.	5006	8. Rattray, M. M.	3999
3. Hudleston, W. E.	4697	9. Power, J. H.	3922
4. Corkery, M. P.	4278	10. Phillips, R. E. G.	3824
5. Gaine, F. J.	4178	11. Clarke, T. H. M.	3772
6. Addams-Williams, L.	4094	12. Marriott, W. E. P. V.	3697

INDIAN MEDICAL SERVICE.—The following is the official List of Surgeons on Probation of the Indian Medical Service who were successful at both the London and Netley Examinations. The prizes are awarded for marks gained in the special subjects taught at the Army Medical School. The final positions of these gentlemen are determined by the marks gained in London added to those gained at Netley, and the combined numbers are accordingly shown in the list which follows :—

January 30th, 1897.

	Combined Marks.		Combined Marks.
^b 1. McArdle, A. A. F.	5626	7. Watson, C. H.	4649
^c 2. Woolley, J. M.	5625	8. Lincoln, C. H. S.	4530
3. Lane, C. A.	5300	9. Price, R. H.	4502
4. Kelly, T. B.	5030	10. Baines, E. F. E.	4408
^d 5. Hugo, J. H.	4921	11. Sealy, G. F.	4340
6. Kenrick, W. H.	4900	12. Bryson, R.	4269

The Prizes were presented by the Director General, Army Medical Department.

EXAMINATION OF CANDIDATES FOR HER MAJESTY'S ARMY AND INDIAN MEDICAL SERVICES.

THE following are the papers which were set at this Examination :—

Chemistry and Materia Medica.—Dr. Shore. Friday, 5th February, 1897, from 10 a.m. till 1 p.m. N.B.—The replies to be

* Gained the Herbert Prize of £20; the Montefiore Medal and Prize of 20 guineas, the Parkes Memorial Medal, and the Pathology Prize presented by the Director-General, A.M.D.

^b Gained the de Chaumont Prize in Hygiene, and the Maclean Prize for Clinical and Ward Work.

* Gained the Martin Memorial Medal.

* Gained the second Montefiore Prize.

written with the ink provided, and not with a pencil or pale ink. 1. Give an account of phosphorus—(a) the state of its occurrence in nature, (b) the physical properties of its various forms, (c) the formulæ and general properties of its compounds with hydrogen and with chlorine. What other elements resemble phosphorus in their general chemical properties and in the character of the compounds which they form? 2. Compare the general properties of the "aromatic" or benzine series of organic bodies with the "fatty" or paraffin series. 3. State the chemical composition of chloral and of chloral hydras. How is chloral prepared? State the actions, and mention the chief uses of this substance. 4. Give an account of the effects of overdoses or of too prolonged use of mercurials. 5. Mention the more important drugs which act specially on the spinal cord, indicating, as far as you can, the nature of the action in each case and the particular part of the cord affected.

Surgery.—Sir William MacCormac. Friday, 5th February, 1897, from 2 p.m. till 5 p.m. All four questions to be answered. 1. Describe the mode of formation of renal calculus. Mention the varieties met with. What symptoms indicate the presence of stone in the kidney? Give the treatment. 2. What are the causes, and what the diagnosis and treatment of the common form of dislocation of the humerus, both in recent cases and after a considerable interval? 3. Describe the treatment of a compound fracture of the tibia and fibula, and discuss the indications which would determine the necessity for amputation. 4. Give the symptoms, pathology and treatment of a case of acute glaucoma.

Anatomy and Physiology.—Mr. Makins. Saturday, 6th February, 1897, from 10 a.m. till 1 p.m. 1. Describe the sub-maxillary triangle of the neck. 2. Give an account of the arrangement of the synovial membrane of the knee and its extensions. Mention in their relative positions the tendons which surround this joint. 3. Describe the form, position, and relations of the supra-renal bodies, and give a short account of what knowledge exists as to their functions. 4. Give a general account of the sources and peculiarities in arrangement of the arterial supply of the brain. Indicate the cortical areas supplied by the anterior, middle, and posterior cerebral arteries, respectively.

Medicine.—Dr. Allchin. 1. State the diagnosis you would have made of the following case, the nature and situation of the lesion, and the reasons for your opinion. How would you have

treated the case and what prognosis would you have formed:— J. W., aged 34, a commercial traveller, was admitted to the hospital in consequence of being paralysed in the left side. His family history was unimportant. Four years ago he is said to have had "pleurisy and inflammation of the lungs," and two years ago contracted syphilis, for which he was under treatment 18 months. He has lived well and drank freely, chiefly whiskey. His present illness came on suddenly three and a half months before admission when at the sea-side. In the afternoon, whilst lying down after dinner (having bathed in the sea for nearly two hours earlier in the day) he was seized with pain in the loins and front of the head. He had previously been quite well. After the pain had lasted about half an hour, the left side of his body and face twitched, but only for a few seconds. He was not unconscious. After a short time he was able to get up and managed to go for a short walk with his wife, though he moved his leg with some difficulty. He returned to London next day and for more than a week attempted to follow his employment, but he finally had to give it up, owing to increasing loss of power to his left side, which became complete in about 15 days from his first attack. During this period it was noticed that the patient was very drowsy. He is reported also to have been somewhat childish in manner for two months previous to admission, and kept his bed entirely. Since the day after his attack he had been under medical treatment, but the nature of this is unknown. The day after admission patient was found to be a well-nourished man, not anæmic, without œdema of face, trunk or extremities, but with a diffuse copper-coloured erythematous rash on upper part of body. He complained of some frontal headache. His manner was hesitating and slow, but he answered all questions rationally, there was some wandering and mild delirium at night, with attempts to get out of bed. The face is slightly drawn to the right, and the left side is smoother. Both eyes can be closed tightly and equally; there is no paralysis of the ocular muscles, nor of those of mastication. Pupils are equal and react equally, though sluggishly, to light and to accommodation. The tongue is protruded very considerably to the left, but lies evenly in the mouth. He says there is a little numbness of the left side of the face as well as in the left arm and leg. In these limbs there is complete loss of power, involving every segment of each, but sensation is in no degree impaired. The left knee-jerk is exaggerated, and distinct ankle clonus is elicited on the same side, the left plantar reflex being

very sluggish, much more so than on right side. There is no rigidity or wasting of the limbs. The electrical reactions are normal. There is no loss of control over the bladder and rectum, but patient says he cannot pass his water without at the same time passing a motion. Optic discs hyperæmic, veins full, and outline of disc on nasal side is indistinct. Pulse 80, regular, of good volume but very soft. Heart sounds indistinct and distant, but no murmur audible. Lungs normal. Nothing abnormal found in abdomen. Urine, sp. gr. 1030, acid, no albumen, no sugar. Temperature normal. 2. Describe the microscopic characters of normal blood, and state what modifications are met with in chlorosis, pernicious anæmia, splenic anæmia, leucocythæmia and lymphadenoma. 3. What are the morbid conditions leading to the formation of dilated bronchi? By what signs and symptoms is bronchiectasis recognised? 4. Describe in detail the treatment (dietetic, medicinal, and general) of a case of chronic nephritis, in which there is considerable anasarca and albuminous urine.

Natural Sciences.—Dr. Shore. Thursday, 11th February, 1897, from 10 a.m. till 1 p.m. Candidates may answer not more than six questions, and they must confine themselves to two branches of science only. *Zoology and Comparative Anatomy.*

1. Describe the structural features which characterise the mollusca. Compare the lamellibranchiata with the odontophora. 2. Give an account of the anatomy of the lancelet (*amphioxus*). 3. Explain the term "alternation of generations," describing the life histories of some organisms which exhibit this phenomenon.

Botany:—1. State the morphological characters of the various kinds of bacteria. What is the "zoogloea" condition.

2. Describe the structure and functions of a typical root. 3. State the diagnostic characters of the following natural orders:—Rosaceæ, umbelliferæ, coniferæ, orchidaceæ, and gramineæ.

Physics:—1. Describe the phenomena called "phosphorescence" and "fluorescence," mentioning substances which exhibit them. Explain the phenomena, as far as you can. 2. Give an account of the circumstances which may affect (a) the velocity, (b) the intensity of sound. 3. Explain the circumstances which determine the strength of a galvanic current. State Ohm's law. Explain the terms—"Ohm," "Volt," and "Ampère." *Physical Geography and Geology*:—1. What is the difference between a "volcanic" and a "plutonic" rock? Mention and briefly describe the chief volcanic and plutonic rocks. 2. Describe the production of land and sea breezes. What are the "monsoons"?

Explain clearly the terms "cyclone" and "anti-cyclone."
3. Upon what important factors does the climate of a district depend?

RECRUITS IN U.S. ARMY.

THE following extract from the Report of the Surgeon-General for the year ending June 30, 1896, may be interesting for comparison with the British Army Report—when it comes:—"The total number of men examined for enlistment was 17,645, of whom 8,643 were accepted, or 489·83 of every thousand examined. The ratio of accepted men was higher among the coloured men, 540·57, than among the whites, 486·46. Of every thousand accepted recruits 727·18 were natives of the United States—659·38 whites and 67·80 negro. In 1894 the ratio of native born recruits was 679·99, and in 1888 665·95. Of foreign nationalities Germany and Ireland furnished the largest proportionate numbers, 88·97 and 75·44 per thousand recruits. The average height of these recruits was 67·51 inches, the native born white recruit 67·68 inches, being somewhat taller than the negro, 67·37, and fully half an inch taller than the foreign born recruit, whose average was 67·14 inches. The foreign born recruit had the advantage over the native born white in weight, the former averaging 147·18 pounds, the latter 145·68. The negro exceeded both, his average being 149·85 pounds. In chest measurement and expansibility also the advantage appears to have been with the foreign born recruit, his measurement at expiration and inspiration being 34·80 and 37·73 inches, as compared with the native born white, who averaged 34·26 and 37·17. The corresponding measurements of the negro were 34·27 and 36·89 inches."

LEPROSY IN THE UNITED STATES.

THE *Medical Standard* (Chicago) prints an article on the segregation of lepers, from which we extract the following:—

"It is a pity that the public is so ill-informed as to leprosy that it falls into a state of panic at the mere mention of the name, and demands that the poor fellows be practically incarcerated. The disease is contagious, to be sure, but very mildly so. So far as we know, no case of contagion has arisen in this city or environs from the scores of lepers who have been at large in our community during all the past years. There are no exact statistics in regard to the distribution of the disease in the United States, but in 1894 Dr. J. Nevins Hyde stated in Washington that approximately there were about 560 cases known to exist. Of these 158 were in California, mostly among the Chinese; 120 were in Minnesota and

20 in Wisconsin, among the Scandinavians; and 83 in Louisiana, among the descendants of the Acadians who emigrated there many years ago. That would leave about 180 for all the rest of the country. Excepting in Louisiana, the disease practically does not spread, and there is not the least reason for any alarm or anxiety as to its spread. Our climate, our food-supplies, and the general hygienic conditions that prevail in our country are all opposed to its spread. Since the disease is not at all liable to spread in this city, why should lepers be seized upon and confined for the rest of their lives? . . . It cannot be denied that it would be a good thing if we had no leprosy here. It would also be a blessing if we had no syphilis here. As leprosy in this climate is very mildly contagious, and as syphilis is very actively contagious, it would seem that there was far more justice in segregating the cases of the latter rather than of the former. Because the latter numbers its victims by the thousands, and spares not even those in authority, the matter of segregating syphilitic patients will, probably, never be suggested. But the lepers are a feeble folk, therefore attempts are made to separate them and put them out of sight."

DR. HEHIR ON MALARIA.

WE are indebted to the courtesy of Surgeon-Captain Hehir, M.D., one of the Staff of the Nizam's Medical School at Hyderabad (Deccan), for a copy of his paper on the *Hamatozoon of Malaria and its Discovery in Water and Soil*. Since 1887, when he first made the acquaintance of the microbe, he has continued his investigations—at first on the lines followed by Laveran, Marchiafava, Celli, Councilman, Sternberg, Osler, Carter, &c., and subsequently by methods of his own, which are here fully detailed. It is impossible for us to give particulars either of his procedure or his results; but we can commend his study to micro-pathologists, and even to physicians, although, it must be confessed, our bacteriological friends have not, so far, done much to help us in curing or even in preventing malarial fevers.

DANGERS OF THYROID EXTRACT.

A recent paper by Dr. Robert Hessler, of the Northern Indiana Hospital for Insane, gives an account of what corresponds to an attack of exophthalmic goitre, brought on by large doses of desiccated thyroid gland. The case was that of a cataleptic who had lain immovable in bed for over three years; there was an absence of motor and sensory activities; the feeding was by means of the nose tube. Under increasing doses of gland constantly

increasing activities resulted, until finally the patient "returned to life" and was able to speak and walk. At a time when 75 grains were given daily, symptoms of exophthalmic goitre appeared and the remedy had to be discontinued temporarily, the pulse going up to 160. In the course of a few days the patient relapsed to his usual condition, but "revived" on again receiving the remedy, with a return of the symptoms mentioned. A similar case recovered promptly in a few weeks on small doses. The thus artificially produced exophthalmic goitre had all the characteristics of the natural disease, minus the glandular enlargement, and all symptoms disappeared on withholding the remedy or under a small dosage. From a study of this case, and several others receiving similar treatment, the author concludes that Graves's disease is due to an over-stimulation of the nervous system by products of the thyroid gland, and that the administration of this gland as a remedy is injurious; the proper treatment is one tending to reduce the functional activity of the thyroid gland.—*Jour. Am. Med. Assoc.*

PAY OF UNITED STATES ARMY MEDICAL OFFICERS.

On passing the Army Medical Board, the assistant surgeon attains the rank and pay of a first lieutenant of cavalry, 1,600 dollars (£320) a year. After five years' service he enjoys captain's rank and pay, and attains higher grades by seniority. There are one brigadier-general, six colonels, and ten lieutenant-colonels to fifty majors and 110 assistant surgeons; captains or lieutenants according to length of service. Every five years' service up to twenty adds ten per cent. to pay proper. Retirement is compulsory at the age of 64. The medical officer is provided with quarters and forage according to his rank.

DEATHS FROM ANÆSTHETICS.

THE *Medical Times and Hospital Gazette* states that 61 deaths occurred during anaesthesia in 1895, which it classifies as follows:—From pure chloroform, 52; from mixtures, containing chloroform, 3; from pure ether alone or preceded by nitrous oxide, 4; from penthal, 1; from nitrous oxide alone, 1.

IL PRATICO.

THIS fortnightly journal, revived after some years of suspended animation, is published at Florence. Dr. Gino Gelli revives it, with the support of Professor Filippi, the original promoter, in the hope "di far cosa buona e utile." Its scope is wide, including practitioners of medicine and surgery, pharmacists; and midwives, to whom

some pages are devoted. Judging from the numbers we have seen we think that Dr. Gelli's hope is likely to be realised; and we wish our infant sister well. The first number contains a minute description of the English system of training nurses, as practised in St. Bartholomew's Hospital, which is recommended for imitation in Italy, as providing a new, honourable, and lucrative employment for women.

DIMINUTION OF MEDICAL SCHOOL ENTRIES IN FRANCE.

WE observe that in France, as in these countries, there has been a considerable decrease in 1896 of entries for the study of medicine. In 1891, 6,212 students were registered. In 1892 there was an increase of 827; in 1893, of 520. In 1894—the last year in which registration was possible without the presentation of a certificate of proficiency in chemistry and natural sciences—the excess of entries over the preceding years was 1,308. In 1895 the excess was 99. In 1896 the total fell off by 511. The diminution is likely to continue, attributable partly to elevation of the standard of qualification, partly to recent regulations affecting foreign students.

MARSDEN'S PASTE.

THE *Medical Record* gives the following formula and instructions for the use of this preparation in epithelioma:—R. Acidi arseniosi, 3ij; pulv. gummi arab. 3i; cocaini mur., gr. xviii. "When you are ready to use this it should be made into a paste by adding water. The paste should be of the consistency of rich cream, and should be applied on a small piece of cloth, which is left on from eighteen to thirty-six hours. This can be repeated as often as is necessary. The above is the formula for the stronger paste. In the weaker preparation use only one drachm of arsenious acid and twelve grains of cocain. Marsden's original formula consisted only of equal parts of arsenious acid and gum arabic. The cocain has been added to counteract the pain."

MORTALITY OF DOCTORS.

DR KORTRIGHT has made an analysis of the ages and causes of death of 450 medical men who have spent their professional lives in New York and its vicinity. Those men, practising the healing and life-saving art upon others, only themselves reached an average of 54·6 years. Whereas among lawyers the mortality figures stood at 20·23, and among clergymen were so low as 15·93, they stood at 25·53 among the doctors. In short, according to Dr. Kortright's figures, doctors are the least long-lived of all

classes except publicans, butchers, factory operatives, and quarrymen. An appalling fact to be added to these is that suicide is four times as common among doctors as among other full-grown men.—*The Hospital*.

YALE MEDICAL JOURNAL.

WE have received the first number of the second volume of this monthly journal, which has overcome the difficulties and discouragements which beset its early infancy, and gives good promise of vigorous growth. The Medical Department of the Yale University deserves, and can maintain, an organ of its own. Its number of students has doubled in five years, the figure for last year being 130. It does not, however, yet supply its own state with medical practitioners. Of 37 medical doctors registered, Aug.—Oct., 1895, only 3 were qualified in Yale. The Hahnemann Medical College, of Philadelphia, supplied two; the New York Homœopathic Medical College, and the Eclectic Medical College, New York, each, one.

EXTIRPATION OF GOITRE.

KOCHER reports that he extirpated 900 goitres in ten years, with only one case of development of cachexia strumipriva—a case in which one side of the gland was totally removed, and the other was atrophied. His practice was to leave a portion of the gland to carry on its functions. Deducting 30 cases of special difficulty, 11 out of 870—1·2 per cent.—died, six of them directly from the operation. Of these, three were cases of Graves's disease; in which he considers extirpation unadvisable, preferring to ligature some of the thyroid arteries.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

New "Tabloids."

Quinine Salicylate "Tabloids" (B. W. & Co.), 3 grs.—These "tabloids" have recently been added to Messrs. Burroughs & Wellcome's general list. They have been much prescribed for influenza, and are in regular use in the treatment of rheumatic gout. Owing to the fact that quinine salicylate is almost insoluble in water the "tabloid" forms a convenient means of administering it. Quinine salicylate "tabloids" are supplied in bottles of 25 and 100.

Compound Bromide "Tabloids" (B. W. & Co.).—In cases of epilepsy, &c., where the bromides have to be administered in large doses for a length of time, it is reported that the salts of sodium strontium and ammonium are less depressing than those of potassium, and that a combination of these three bromides, with a small quantity of the sodium arseniate to prevent ache, forms the best method of continuous bromide treatment. In view of this conclusion, compound bromide "tabloids" have been issued, the dose of sodium arseniate being such as to allow of six "tabloids" to be given in one dose when necessary. These new "tabloids" are prepared according to the following formula:—R. Sodii bromidi, gr. 2; strontii bromidi, gr. 2; ammonii bromidi, gr. 1; sodii arseniatis, gr. $\frac{1}{10}$. They are issued in bottles containing 100 "tabloids."

Trional "Tabloids" (B. W. & Co.), 5 grains.—These "tabloids" have been introduced to meet the growing demand for a convenient method of administering trional. This drug resembles sulphonal in its action, but is more prompt, sleep being said to follow its administration in fifteen to thirty minutes, and to last from six to eight hours. Disorders of digestion seldom follow its use. Three "tabloids" or more are usually given for a dose. They are put up in bottles containing twenty-five "tabloids" in each.

Tetronal "Tabloids" (B. W. & Co.), 5 grains.—This hypnotic produces sleep more rapidly than sulphonal. The latter is said sometimes to take two or even four hours to act, as against about fifteen minutes for tetronal. It is reputed to be entirely free from injurious effects, and as tolerance is not established it is suitable for prolonged administration. Two to four "tabloids," crushed in milk, may be administered fifteen to thirty minutes before sleep is desired. Tetronal "tabloids" are issued in bottles of twenty-five.

Eucaine Hydrochloride "Soloids" (B. W. & Co.), 1 and 5 grains.—Eucaine is said to have a local anæsthetic action similar to that of cocain, but without its toxic properties. The anæsthesia of eucaine is slower to develop than that of cocain, but lasts longer. It is now under extensive trial in place of cocain in nasal, laryngeal, urethral, dental, and ophthalmic surgery. Subcutaneously it produces local anæsthesia similar to cocain. It is sparingly soluble in cold water, but is freely soluble in hot water, from which, however, it crystallises out freely on cooling, the crystals thus produced being less soluble than before. In view of these physical characteristics percentage and other solutions are conveniently and effectively made from "soloids." Both one and five-grain eucaine hydrochloride "soloids" are issued in bottles containing twenty-five in each.

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OF

MEDICAL SCIENCE.

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MODERN METHODS and PRODUCTS.

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This compact hand-case has been arranged to contain all the chemicals and apparatus required by Medical Officers of Health for the analysis of water.

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A recent report in the *British Medical Journal* (March 17, 1897), by the lecturer on Pharmacology at Westminster Hospital, points out the dangerous adulteration that is carried on in the case of many toilet powders, such minerals as zinc, bismuth and lead being present in some samples to the extent of 40 per cent.

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THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

APRIL 1, 1897.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XIV.—*Sixty-one Cases of Partial and Complete Excision of the Tongue.** By W. I. WHEELER, M.D., and Master of Surgery, Univ. Dubl.; F.R.C.S.I.; Past President, R.C.S.I.; Surgeon to the City of Dublin Hospital, &c.

BEFORE referring to the operative measures adopted for partial or complete excision of the tongue, it may not be uninteresting briefly to review the development and anatomy of this organ, to refer to the distribution of its muscular structure, and to mention its arterial and nervous supply.

The tongue is developed in two portions—an anterior and posterior; the posterior, being developed at the junction of the 1st and 2nd branchial arches, is as far forward as the foramen cæcum, the anterior being developed between the mandibular and hyoid arches. The anterior formed and springing from what is termed the tuberculum impar differs in many respects from the posterior, the posterior portion of the anterior development meeting it at the foramen cæcum. This anterior portion of the tongue is divided into two distinct and separate portions by the median raphe, and is separate and distinct at each side of the median raphe.

* Read before the Surgical Section of the Royal Academy of Medicine in Ireland, Friday, January 22, 1897. [For the discussion on this paper, see page 343.]

There are some who would assert that the transverse muscles cross at the tip, but this has been disproved; while the more cautious in assertion state that it has not yet been proven that those transverse muscles do cross at the extreme end of the tongue; while others assert that the stylo-glossus muscles cross at this point. But not only has the contrary been demonstrated by competent authority, but in a dissected tongue, kindly lent me by Professor Fraser from his collection in the Royal College of Surgeons, which I recently exhibited at the Clinical Club, the termination at their respective sides of the median raphe was obvious.

The arterial supply derived from the lingual artery is worthy of notice, no anastomoses taking place between the two terminal or ranine branches. True, Power, in his work on "The Surgical Anatomy of the Arteries," and other authorities, state that the ranine arteries of opposite sides anastomose, but injecting the artery on one side has not injected the vessel of the other side; and Hyrtl, of Vienna, has demonstrated that they do not anastomose, and has called them end arteries.

The nervous supply is the hypo-glossal, lingual, and glosso-pharyngeal.

This brief description of the anatomical arrangement shows that the anterior portion of the tongue is a double and separate organ, that neither the intrinsic nor the extrinsic muscles cross the raphe, that its mucous surfaces are distinct in character from the posterior portion of the tongue—important knowledge from a surgical aspect. I have myself seen a congenitally-divided tongue in an infant with hare-lip.

The surgical value of this anatomical knowledge appears to me to be primarily twofold—1st, that should one side of the tongue anterior to the foramen cæcum only be diseased, the diseased portion can be completely removed without excising the entire tongue; 2nd, that both the character of the mucous membrane and the situation of that portion of the tongue terminating at the foramen cæcum render it less likely to be primarily affected, and that disease more usually extends from the anterior portion of the tongue, which is far more liable to irritation on account of its situation and the roughened character of its mucous surface. I have never

seen cancer attack primarily that portion of the tongue which is posterior to the foramen cæcum except once.

Time will not allow me to enter fully into the various causes of cancer of the tongue—that malady we are all so anxious to combat successfully; but besides the cancer from direct irritation, syphilitic disease appears to be a potent factor.

Some few years ago I communicated to the Pathological Section of this Academy observations upon syphilis as a source and cause of cancer of the tongue. Quite recently I have given Dr. McWeeney a portion of a tongue I removed from a male, forty years of age, who had a marked syphilitic eruption when admitted to hospital, also an ulcerated tongue. The eruption and ulceration improved under medicinal treatment, but the diseased portion of the tongue removed proved to be epithelioma.

Stallard, Virchow, and others attribute the increase in cancer of the tongue to smoking, dram drinking, and rough eating. That these produce cancer directly I very much doubt, but they exercise a very potent indirect effect, tending, as they do, like syphilis, to produce a condition of chronic inflammation of the superficial layers of the mucous membrane, which frequently precedes cancer, and may be said to till the soil for carcinoma.

Nor can it be wondered at that the tongue should be a selected organ for cancer; to me it has been a source for contemplation why it is not more frequently the seat of that disease, on account of its constant contact with broken and carious teeth, which, possibly embedded in tartar, are continuous sources of irritation, and why the malignant growths should invariably, if not always, be of the epithelial type.

Plates and false teeth, and the diseased stumps retained by dentists to afford a better foundation for their work, are not an uncommon cause of irritation and consequent cancer.

Smoking is also a cause of irritation, especially the clay pipe, which produces an excoriated surface on the lingual extremity. Professor Ludwig has stated that carbonate of ammonia, carbolic and acetic acids, which are present in the products of tobacco smoke, are deleterious, and that their action upon the tongue may set up glossitis or ichthyosis;

which is known by every practical surgeon to be one of the causes of epithelioma. Heredity has been stated to be a pre-disposing cause of malignant disease of the tongue, but of this I have no knowledge.

If the causes of carcinoma of the tongue may be divided into pre-disposing and exciting, amongst the pre-disposing age and sex would stand in the first rank. Youth appears to be almost exempt, and only a few cases are recorded in which the patients were less than thirty years. From 290 cases from different authors, 8 only were between twenty and thirty years of age; their exact age is not stated, so that it is not improbable that they were only just under the age of thirty. After 30 years no one seems to be safe from the disease. Out of 61 cases I operated upon, there was not one under forty years of age, and the majority of cases were over fifty-five years, and one only was a female.

I have not alluded to the so-called parasite of cancer described by Dr. Ruffer in England. Dr. Hebb has described similar appearances to those of Ruffer in a fibrous thickening of the omentum.

Within a measureable distance of time a statement has been made that the tongue is sometimes attacked by hard and soft carcinoma. It appears to me that this statement rests only on the foundation of the hardness, or softness, or large size of particular tumours. My experience leads me to believe that the tongue is subject only to the epitheliomatous carcinoma. No part of the tongue is exempt from carcinoma, but I have never seen the posterior portion of the tongue behind the foramen cæcum primarily attacked by cancer, except in one instance, due to syphilitic deposit. In relation to seat, it must not be forgotten that two carcinomas may be developed at the same time on the same tongue.

Carcinoma of the tongue may appear as a blister, a crack, a fissure, a wart, a tubercle, a nodule, an excoriation. It is not to be understood that cancer desires to assume the appearances of other diseases, but that all these various forms may be productive of and degenerate into carcinoma. There is very sufficient evidence that for a lengthened period any of the above forms may remain in the pre-cancerous stage.

Epithelial cancer is described under different forms—soft, warty, sloughy sore, with jagged edges and hard base; or only as a dense mass which contracts the tissues of the tongue so as to resemble cicatricial tissue.

Clinically, I recognise two forms of epitheliomatous disease on the tongue; one is the flat, the other the penetrating. This division is useful from both a diagnostic and prognostic point of view; for the course pursued by a carcinoma depends much on which of these two forms it happens to be, and also upon the situation.

For, if the disease commences in the dorsum of the tongue it may never reach the neighbouring structures, whereas if the origin is on the border of or beneath the tongue, the floor of the mouth is rapidly affected. In almost every case which I have seen, which commenced as a general soreness or blister, analogous to the non-penetrating, there was rarely contamination of the glands; whereas when the disease originates as a nodule and breaks down, the glands are invariably attacked early. It is by the continuous observance of ulcers of the tongue that an accurate diagnosis can be arrived at, and a satisfactory prognosis. Secondary deposits rarely occur when cancer attacks the tongue. Cancer of the tongue may, therefore, be looked upon as a local disease, imperiling life by its position and not by dissemination, wearing out the sufferer by excruciating pain, and by the poisonous fluids that are swallowed, relief being obtained only by the administration of morphin and by the division of the gustatory nerve. I divided the gustatory nerve on three occasions; pain was relieved and salivation lessened.

The diseases most likely to be mistaken for carcinoma are—syphilis, tuberculous ulcers, simple warty tumours, simple ulcers, fissures. Time will not permit me to enter upon a differential diagnosis, but I may say that by scraping the surface in doubtful cases and obtaining a microscopic examination, an aid in diagnosis is afforded not to be despised. The rapid and continuous growth of the kindred sciences has made the work of co-ordination less impossible, perhaps, but it has brought with it enormous and ever-increasing demands on the intellectual equipment of those who would seek to grapple with it.

The subjective symptoms in carcinoma are pain and salivation. The latter may not be troublesome until the disease has made considerable progress, whereas the former may be present at the very earliest period of the disease; these symptoms are likewise present in tuberculous ulcers.

To the above symptoms may be added enlargement of the glands beneath the jaw and of the lymphatic glands. The glands may be so large as to be plainly visible, but often have to be sought for and sometimes they are not enlarged at all.

I shall record briefly a few of my cases, epitomised from my case books:—

CASE I.—A coachman, aged forty-seven, suffering from lingual carcinoma upon the right side of dorsum of tongue, and extending along right border for about two inches backwards, experienced considerable pain in his right ear, and when taking food there was excessive salivation, also emaciation caused from a disinclination to take nourishment. There was not any glandular enlargement. His oral orifice being very small I had to divide his right cheek as far as his masseter muscle; a suitable gag was used, and his tongue having been forcibly excluded was divided with the thermo-cautery scissors behind a long needle, which had transfixed his tongue posterior to the disease.

Eighteen months after the operation he had no return. I never heard of him since.

Microscopical report of examination—Epithelioma.

CASE II.—A male, aged fifty-three years, carpenter by calling, suffered from carcinoma of tip and left half of his tongue, extending nearly to the foramen cæcum. He experienced excruciating pain, which traversed his left ear and the side of his head. It was relieved by hypodermic injections of morphia.

His left submaxillary gland was enlarged, and much thickening could be felt even below the submaxillary space.

I separated the left anterior half-arch of his palate, and divided the lingual attachments to the floor of his month, having previously seized his tongue with the forceps I am in the habit of using. Not, however, having sufficient room, I was obliged to divide his left cheek. I excised the diseased half of his tongue, as in the former case.

In about a fortnight after I removed his submaxillary gland, and tracing downwards the thickened connective tissue I removed three or four enlarged lymphatic glands.

The disease returned in the floor of his mouth, which was removed by a second operation.

No return thirteen months after.

Report of examination—Epithelioma.

CASE III.—A gentleman, aged over sixty years, consulted me for an epitheliomatous growth on the right anterior portion of his tongue, extending backwards for about $2\frac{1}{2}$ inches. He did not experience much inconvenience except when he partook of food. There was not any glandular enlargement. It is not difficult to detect glandular enlargement in the submaxillary region if a careful internal and external examination be made. Suffice it to say I removed the growth through his mouth, dividing his tongue with a scissors in the median line and then transversely. Dr. Harley kindly administered ether. Dr. Foot, who was his physician, was present, as also Mr. Stack, his dentist, and the late Dr. Charles Lyster, of Kilkenny. The report of the examination was epithelioma.

He never had a return of the disease. Six years later I was called to see him for intestinal obstruction of about a week's duration. Dr. Gordon saw him with me, and Mr. O'Grady assisted at this operation, which was performed as a *dernier ressort*.

CASE IV.—Male, blacksmith, resident in Kilkenny, was afflicted with cancer of the left anterior and left lateral half of his tongue, and suffered from intense pain and profuse salivation, accompanied by a most loathsome factor. He came under my care in hospital 18 years ago. There was left side glandular enlargement; the floor of his mouth was unaffected. His left cheek having been divided and the hæmorrhage consequent on such controlled, a long needle transixed his tongue behind the disease and posterior to which the tongue was removed by means of the thermo-cautery scissors.

Report of the examination of the removed portion was an epithelioma. He healed kindly to cure. In three weeks after I removed the enlarged gland, which had diminished in size, and traced beneath, through the medium of the thickened connective tissue, two or three small lymphatic glands, which I also removed. This patient was treated in St. Mark's Hospital for some affection of his eyes three years ago, when he called at the City of Dublin Hospital, where I saw him; there was no recurrence of the disease in his tongue then—about fifteen years after the operation. He is still alive and well as far as I know.

CASE V.—Four years ago I operated on a gentleman in Mespil Hospital, who had a cancerous growth in the centre of his tongue, about $1\frac{1}{2}$ inches from the tip, which originated from a syphilitic deposit. Dr. Harley and Dr. Hadden were present. There was no glandular complication. The disease and almost the entire of the tongue were removed by an ordinary scissors.

In eleven months afterwards a nodule appeared in the anterior portion of the floor of his mouth towards the left side, and slight glandular enlargement in the submaxillary region of the same side. The new growth I removed, as also his submaxillary gland and the lymphatic glands in the neck. There has been no return, now over three years and nine months since the second operation.

CASE VI.—Six years ago two sailors presented themselves at the City of Dublin Hospital in the same week, both suffering from carcinoma of the tongue. They were both over forty years of age, and under fifty, and although no way related were not unlike in appearance and conformation. They were both below the middle height, the address of one was Kingstown, the other North Wall. One (B.) suffered from epitheliomatous ulceration over the anterior two-thirds of his tongue, the floor of his mouth was also implicated. The disease was of thirteen months' duration. The other (F.) suffered from epitheliomatous ulcer on the left margin, an inch behind the lingual tip, of six months' duration. Neither had any syphilitic history. The cause assigned in the first case was being scalded with hot whisky; the cause assigned in the second case, with the deep lateral ulcer, was from chewing tobacco. Both had excellently sound teeth; neither had pain except on irritation; neither had increased salivation; neither had enlargement of the glands or any trace of thickening, nor could any abnormal resistance, either externally or internally, be felt. Both were constitutionally healthy. Both these patients had unusually small oral apertures, very narrow mouths; this, together with a perfect set of teeth, rendered it quite impossible to satisfactorily remove the disease without considerably more room than was afforded through the mouth.

I therefore determined to divide the jaw and lip in median line after the plan of Roux and Sédillot.

The patient B., with the superficial ulceration of his tongue and the diseased floor of his mouth, I operated on with the ordinary scissors, dividing the structures by a series of successive short snips, and his tongue transversely; the ranine arteries were deligated.

As to the second patient, I removed the left half of his tongue well beyond the disease with the thermo-cautery scissors. The divided jaw in each case was brought together by suture. They were discharged from hospital in seven weeks after the operations.

I saw one of these patients a year, the other eleven months, after the operation. There was not any return of the disease. They promised to come back if they were again attacked.

It would be irksome to record individually all the cases and the operations I refer to for partial and complete removal of the tongue, many requiring the osseous structures also to be removed. Suffice it to say, out of 61 operations performed by me for inalignant disease, none died from the effects of the operation, save one, a male, on whom I operated by Kœcher's method modified; he died of asthenia. I did not tracheotomise him.

Of the 61 cases, in 29 I believe the disease returned. Many of these operations were performed, not with a view to cure, but merely to relieve, and remove a foul, sloughy, foetid mass, and thus render existence more tolerable; 22 others I have not been able to trace at all directly myself. I heard indirectly that five were healthy three or four years after operation.

The remaining that I have information of are as follows:—

1. No return 1 year after operation.
2. No return 11 months after operation.
3. No return 13 months after second operation.
4. No return 18 months after.
5. No return 3 years and 9 months after.
6. No return 6 years after. Died of other disease; 73 years.
7. No return 15 years after. I believe now alive.
8. No return 7 months after.
9. No return 3 months after; now in hospital.
10. No return 2 months after operation.

The three latter recorded are too recently operated on to form any definite opinion as to their immunity from disease. One of them is a gentleman operated on in Mespil Hospital in July last. Drs. Harley, Hadden, and Mr. O'Grady were present. The prognosis is favourable in this case, the form being flat epithelioma.

One case is still in hospital, operated on in November last. This was a most unpromising case. He was admitted with bronchitis and purulent urine, and extensive disease of his tongue involving also the floor of his mouth. His left submaxillary gland was enlarged; he was exceedingly weak. He showed a tendency to suppurate superficially in his left submaxillary space; I opened an abscess in this region, removed the gland, and as the lingual artery was exposed I ligatured it. I removed all the diseased portion of the patient's tongue and the disease in the floor of his mouth. The electric cautery was used.

There is only one prognosis for unoperated lingual carcinoma—death; and a like prognosis for a large number of operated cases. That complete recovery does take place is undoubted, as proved by my cases.

Mr. Heath had patients alive eleven and five years after operations, and similar surgical records are extant. Operations on the tongue and in the mouth usually heal kindly, and this was formerly thought to be due to the sulpho-cyanide of potassium in the saliva, but in a recent discussion upon this subject in the Clinical Club, Dr. McWeeney related the reasons given by a French experimentalist, who had made investigation on this subject in the Pasteur Institution. He found that the saliva had no bactericidal power whatever, and that the most virulent cocci were abundantly present in it. He likewise found that the sulpho-cyanide of potassium exercised no anti-bacterial or antiseptic effect in the quantity in which it is contained in the saliva. The cause of the rapidity of the healing process he found to be in the fact that saliva exercised a powerful positive chemotactic influence upon leucocytes, the result being that these cells always appeared in enormous numbers at any solution of continuity in the buccal mucous membrane, and completely encapsuled any microbic focus of infection which might be originating from such a wound. He confirmed this result by rubbing extremely virulent cocci into small abraded wounds in the mouth cavity of guinea pigs, and similar cocci into some portion of the abraded cutaneous surface in control animals. The animals inoculated in the mouth soon recovered, with slight symptoms, whereas in the other set of animals

an intense inflammatory process, often resulting in large abscesses, or even in general infection, was the result. By killing some animals so treated at various periods after the inoculation, and subjecting the inoculated regions to microscopic examination, he was able to make out that the cocci he had rubbed into the wound in the mouth were surrounded by an enormous accumulation of leucocytes very soon after their introduction, and before multiplication had had time to set in. The cocci were mostly found inside the leucocytes, and were obviously undergoing intercellular digestion—phagocytosis. In the case of the cutaneous wounds the collection of leucocytes was much smaller, and the organisms were in many cases enabled to get into the lymphatic channels and set up spreading inflammation.

I have considered it expedient to ligate the external carotid before removing the tongue tonsil and part of the palate, but preliminary ligature of the lingual arteries in excision of the tongue, as recommended by Mirault, is not required; there is no hæmorrhage from the ranine arteries to cause alarm, and as the operation upon the tongue is frequently postponed until the wounds for deligating the lingual vessels heal, the disease in the mouth is increasing and may be infecting the patient. So likewise when the glands beneath the maxilla are removed before removing the diseased tongue, the operation on the tongue is often postponed until the wound made to remove the glands has healed; the longer the foul diseased tongue remains unremoved, the chances of septic contamination increase. True, there are some cases where glands are never contaminated in lingual cancer; in its early stages it is a purely local affection; but in cases where the salivary glands are enlarged, I am convinced that it is better surgery to excise the cancerous tongue first, and after the diseased glands. The submaxillary glands may be enlarged through the connective tissue, or by septic or sympathetic influences, and when the diseased tongue—the source of irritation—is removed the glands will usually subside a little, and can be more perfectly and completely extirpated, and the connective tissue will be a guide to the lymphatic glands deeper in the neck, where the lymphatics directly communicate.

The proposition to examine all the lymphatic regions for all the lymphatic glands that may be engaged in cancer of tongue is not practical, and savours of inexperience. There is no analogy in clearing out the axillary glands in cancer of the breast.

Köcher removes the glands at the time of operation. He also recommends a preliminary tracheotomy, which, in my opinion, is as unnecessary a procedure as preliminary ligation of the lingual arteries through fear of hæmorrhage. I have seen only two tracheotomies preliminary to the operations on the tongue, and both cases died. Tracheotomy subjects the patient to an additional operation without any compensation for the consequent loss of strength and power.

The earliest operation on the tongue was by Pimperlle, who died in 1658, and numerous operations have been performed connected with the names of Louis, Inglis, Cloquet, Langenbeck, Mirault, Whitehead, Nunneley, Paget, Jaeger, Maisonneuve, Syme, Regnoli, Billroth, Köcher, but in truth there is no individual operation suitable to every case of lingual cancer.

When the tongue only is engaged, and to a limited extent, it can be removed through the mouth. When the floor of the mouth is engaged more room will be required.

I have performed nearly all the recent recognised operations for lingual cancer, or modified them. I prefer the thermo-cautery scissors when suitable. It will be found an admirable instrument in the majority of cases of lingual cancer should the disease be not too extensive. The scissors, a gag, a long needle, ligatures, a scalpel, and a few hæmostatic forceps and sutures are all that is required; there is no bleeding except from the ranine arteries; this is to be encouraged. I never use a ligature through the tongue; the operation can be performed through the mouth, but if further room is necessary the cheek may be split. The tongue is held by a toothed lingual forceps, and the cold blade of the scissors is passed under the surface of the tongue, while the heated blade cuts through the tongue from the upper surface. Just as the ranine arteries are about to be severed, the hot blade is allowed to cool a little in order that the vessels may bleed; they are secured by a hæmostatic forceps, and ligatured.

This completes the operation; there is no charring of the structures unless the instrument is too hot. In a large portion of cases this procedure will be found efficient and sufficient.

In conclusion, I would wish to emphasise the necessity for the most careful attention to the condition of the mouth and diseased surfaces prior to and after operation. The strictest cleanliness should be observed; the mouth should be douched and sprayed frequently before the operation, and equal care and supervision should be exercised after the operation. I feel that many cases are lost through septic influences for want of this attention.

I have never found it necessary to dress the mouth with gauze as advised by some. After the operation I have the patient fed partly by the rectum, and through a tube attached to an ordinary feeding-cup, but the greatest care and regularity are given to douching and washing out the mouth.

The following modified table, quoted from Wölfler, is published by Butlin:—

EARLIEST IRREGULAR OPERATIONS.

- | | | |
|-----------------|-------------|---|
| 1 Pimpernelle | died 1658.— | Was probably the first to excise the tongue with success. |
| 2 Marchetti | „ 1664.— | Extirpated a cancer of the tongue by actual cautery; probably the first recorded extirpation for this disease (<i>Phil. ac. Med. Observ.</i> , s. 62). |
| 3 Val. Hoffmann | „ 1692.— | Removed a tongue affected with macroglossia. |
| 4 Ruysch | „ 1737.— | Excised with a knife and cauterised with a hot iron (<i>Oper. om.</i> , Amstelodami, p. 70). |
| 5 Memonista | „ 1737.— | |
| 6 Heister | „ 1743.— | Gave the first methodical description of operative treatment of cancer of the tongue (<i>Chirurgie</i> , Nurnberg, 1763). |
| 7 Buxdorf | „ 1754.— | Excised a true cancer of the tongue with the knife (<i>In Actis Helvet.</i> vii., 116, Basil, 1772). |
| 8 Guthrie | „ 1756.— | Was, probably, the first English surgeon to excise a cancer of the tongue, using the knife, followed by cauterisation of the cut surface. |
| 9 Louis | „ 1759.— | Ligatured a “fungus” of the tongue, and later (1774) spoke at length and clearly in favour of total excision for cancer (<i>Mém. Acad. R. Chir.</i> , 1774). |

DEFINITELY DESIGNED OPERATIONS.

LIGATURE.

- 10 Inglis died 1808.—Introduced ligature of the tongue from the mouth for cancer, the cords being drawn with needles through the tongue and round the tumour (*Edin. Med. and Surg. Jour.*, 1805, p. 84).
- 11 Major „ 1827.—Split the organ down centre to apply the ligature to the diseased half from the mouth.
- 12 Cloquet „ 1827.—Also split the organ, but introduced the ligature by a suprahypoid incision, and strangled the diseased half (*Arch. gén.*, xii., 511).

WEDGE-SHAPED EXCISION.

- 13 C. J. Langenbeck died 1819.—Introduced wedge-shaped excision of diseased part of tongue, with careful suture of resulting flaps (*Biblioth. f. Chir. u. Augenk.*, 2 Bd., s. 487).

PRELIMINARY LIGATURE OF LINGUAL ARTERY.

- 14 Mirault died 1838.—Introduced preliminary ligature of lingual artery to give a clear bloodless field for extensive incisions. He was followed by Roux, and later by Roser (*Archiv. gén.*, vi., 5, 686).

ÉCRASEMENT.

- 15 Chassaignac died 1854.—Introduced the *écraseur*, employing Cloquet's suprahypoid method, and defining it more exactly, i.e., using puncture instead of incision (*Traité de l'écrasem. lin.*, p. 81).
- 16 Middeldorpf „ 1854.—Introduced the galvanic *écraseur* (*Schmidt's Jahrb.*, Bd., 107, 260).
- 17 Nunneley „ 1856.—Introduced the suprahypoid use of the *écraseur* into England, adopting Chassaignac's modification (*Medical Times and Gazette*, 1862).
- 18 Girouard „ 1857.—Employed circumpuncture with rods of caustic (*Arch. gén.*, 1857, p. 100).

DIVISION OF THE CHEEK.

- 19 Jaeger died 1831.—Was the first to divide the cheek for free access to the tongue (*De Extirp. Ling.*, 1831).
- 20 Maisonneuve „ 1858.—Divided both cheeks from angle of mouth for same purpose (*Compt. rend. Acad. Sci.*, T. 57, 831, 1863).
- 21 Collis „ 1867.—Reintroduced Jaeger's operation, using the *écraseur* (*Dub. Quar. Jour.*, xliii., 8, 1867).

DIVISION OF THE LOWER JAW.

- 22 Roux died 1836.—Was the first to divide the lower jaw and lip in mid-line, in order to gain free access to the floor of the mouth and tongue (*Maisonneuve's "Thèse,"* p. 146).
- 23 Sédillot 1844.—Improved this method by dividing the bone by a serrated cut (*Gaz. des Hôp.*, 88).
- 24 Syme 1857.—Divided the jaw in mid-line, and excised with the knife (*Lancet*, 1858, i. and ii.).
- 25 Billroth 1862.—Divided the jaw and soft parts at the side in two places, and turned down the flap of skin and bone so formed, replacing and wiring the bone afterwards (*Arch. f. Klin. Chir.*, 1862, 681).
- 26 B. V. Langenbeck 1875.—Divided the jaw and soft parts opposite the first molar tooth on one side, in order to gain access to side of the mouth for removal of the tongue, glands, and part of the palatal arch and tonsil (*Benary's "Inaug. Dissert.,"* 1876).

INFRA-MAXILLARY OPERATIONS..

- 27 Regnoli 1838.—Opened the floor of the mouth from below by an incision from middle of hyoid bone to chin, ending in another semi-lunar incision along the border of the jaw. The tongue was drawn through the opening and excised (*Bull. Sci. med. Bologna*, 1838).
- 28 Czerny 1870.—Modified Regnoli's procedure, forming lateral flaps.
- 29 Billroth '71-6.—Modified it still further, extending both ends of the curved incision much farther backwards, and omitting the incision in mid-line (*Langenbeck's "Archiv.,"* Bd. 16. Hft. 2).
- 30 Köcher 1880.—Introduced a method of opening the mouth from behind and below the angle of the jaw to reach the base of the tongue, and remove it, with all the lymphatic glands situated there (*Deutsche Zeitschrift f. Chir.*, xiii, 146, 1880).

ART. XV.—*On Acute Intestinal Obstruction.** By J. S. M'ARDLE, F.R.C.S.I.; Surgeon to St. Vincent's Hospital, Dublin.

I BASE this communication on the results of 41 operations carried out for the relief of acute intestinal obstruction, that is, operations carried out during the acute trouble. The list does not include laparotomies for chronic obstruction or intestinal affections other than those in which life was in imminent danger at the time of the procedure. Of these, 34 recovered and 7 died. Not one of the cases which succumbed did so as a result of operation. Death occurred in the following:—

1. Perforation at posterior aspect of 1st stage of duodenum.
2. Perforation of cæcum.
3. Thrombosis of mesenteric veins.
4. Rupture of abscess from appendicular disease.
5. Extensive tuberculosis of mesenteric glands.
6. Malignant infiltration of omentum.
7. Extensive peritoneal cancer.

That every surgeon has a perfect right to his own opinion, and an unlimited license in the expression thereof, is a fortunate circumstance. It is deplorable, however, that a position in the gift of the profession can be utilised for the diffusion of personal views (however well founded) without full and free discussion.

In a brilliant communication to this Section a former President said:—

“As far as my sight reaches I can see no direction in which the craving for novelty and originality has caused men to overstep themselves more than in the operations undertaken so often and with such a light heart for the relief of some forms of obstruction of the bowel. The hateful expression that ‘*there is practically no danger in opening the peritoneum*’ is ever before the reader in these days, and, as regards a class of cases I wish to speak of, a more false or poisonous teaching was never promulgated.”

* Read before the Surgical Section of the Royal Academy of Medicine, Friday, December 11, 1896. [For the discussion on this paper, see page 245.]

Without the safe-guards which free discussion would set up around the position taken in the paper alluded to, the views set forth are assumed to have the sanction of the entire profession, and as such they rightly influence the minds of those who have to depend on hospital workers for light and leading in cases of extreme gravity, as all these cases are, in fact and deed. All debatable points are out of place in a communication from a position of responsibility which has its duties to the profession as well as its privileges to the recipient of the honour.

The cases which I desire to bring under your notice make me believe:

1st. That my contention about unquestionable pronouncements is correct; and

2nd. That the statements made with all the semblance of finality are not only incomplete but capable of a construction which has led to fatal consequences over and over again.

That the cases referred to in the communication above mentioned constitute but a small percentage of those demanding surgical interference is proved by the statistics given by Treves, who says that of 1,000 cases of death from intestinal obstruction only 60 were due to faecal accumulations, while 940 were the result of troubles for the most part removable by exact surgical treatment.

Thus one must see that many of the reported cures by physic are only instances of temporary relief, often from conditions in which laparotomy would lead to eradication of the disease.

Now the mortality after abdominal section in the pre-aesthetic era was 73 per cent.; it is still 68 per cent. How is this to be explained. The answer is given with true American bluntness in Keen and Whyte's excellent treatise on surgery, where we read as follows:—

Keen and Whyte.—"Abdominal section in the treatment of intestinal obstruction has so far been attended by a fearful mortality, owing to the fact that most operations were performed at a time when the patients were in collapse, or when the parts involved in the obstruction had undergone advanced and often irreparable pathological changes."

Treves.—"In genuine cases of acute intestinal ob-

struction there is so extremely slight a prospect of spontaneous relief that that possibility—which has been exaggerated by imperfect reports of cases and errors in diagnosis—may be disregarded when the question of treatment is considered.”

The opinion of Lockwood is referred to in a letter relating to one of the cases which I bring before you, and as it contains some definite views on this subject you will, I hope, pardon me if I quote from it. In reference to an article by Lockwood, in the *Clinical Review* for March, 1896, he says: “The best remark in the communication is—‘In hospital practice it is very sad to see the number of cases of intestinal obstruction in which delay has sealed the patient’s fate.’” He then continues, “I believe firmly that all doubtful cases of intestinal obstruction should be in the Surgeon’s hands, as in nine cases out of ten surgery will save where drugs will kill. Before I knew the advantages of operation my patients invariably died with a pint of olive oil in their bowels, and some were fortunate in not bringing O’Beirne’s tube as well to the grave.”

This is the opinion of a man who has studied both sides of the question, and few who have any experience will disagree with him.

That many cases of constipation are relieved by enemata I am quite certain. That opium, belladonna, salines and calomel have their uses I do not question, but that any or all of these ever cured a case of acute intestinal obstruction I doubt very much. On the other hand, I am quite convinced that they have often raised false hopes in the hearts of patients and their friends, while deluding the medical attendant into the belief that he was acting fairly by those who entrusted their lives to his keeping. I shall now briefly refer to a few cases which have convinced me of the necessity for vigorous and timely interference in obscure abdominal troubles.

I was recently called to Mayo to see a gentleman who for six days had severe pain and distension of the abdomen. There was a history of his having eaten vegetables, and immediately going off to shoot. He felt severe pain some hours later, and not being relieved by hot punch and turpentine stupes, he obtained the assistance of a medical

man, who gave him morphia. Later, two others in consultation ordered belladonna and enemata. When I arrived I found that all the usual remedies had been employed, but without effect. All the recent literature had been hunted up to find some pretext for the avoidance of surgical interference, and to the great delight of the usual attendant he found some authority for doing nothing. The bowels moved on the day of my arrival, but the patient died. I had an opportunity of opening the abdomen, and found it full of dark, foul-smelling serum. The entire colon was dark in colour and covered with grey patches; there was a cancerous stricture at the splenic flexure of colon. How could palliative measures be effectual here?

In December last year I was called to Limerick to see a gentleman who had suffered for some days with abdominal pain and tenderness. The bowels could not be got to act. He had heard with great delight of the possibility of relief without operation, and willingly submitted to procedures ten times as trying and infinitely more disgusting. The end was such as one might expect when physic has occupied the time in which modern surgery could be effective; he died before my arrival, although some scybalous masses had been removed from the lower bowel.

Two months ago I was called to see a lady in the South of Ireland who had been treated for intestinal obstruction for five days. Under the influence of belladonna and opium, and supported by the opinion expressed in the communication alluded to in the opening of this paper, which was read to her by her medical attendant, she flatly refused to be operated on, although I proved conclusively that peritoneal effusion had already taken place. She was convinced that medicine was all-powerful, and I regret that the gentleman who advocated lavage, rather than laparotomy, was more persuasive than I. Forty hours afterwards this lady died, and the Transactions of this section influence her attendant no more. So at least he declares. I do not object to medical treatment being tried, but I do strongly protest against stimulating men to revert to the do-nothing methods of old, and claiming every case of constipation relieved as one more case of acute intestinal obstruction cured.

A little time ago I was called away from the theatre of St.

Vincent's to see a case on the north side of Dublin. On my arrival I learned that the patient had suffered from inguinal hernia for years. Four days before I saw him he had been exposed to cold, and the hernia became irreducible. Then after lying in bed it went back of itself, but still having pain in the abdomen, and the bowels not moving, he consulted a doctor, who called in another on the evening of the third day. On the morning of the fourth day I saw him, and decided that laparotomy was necessary, not to relieve the bowels so much as to wash out the peritoneum. While I was preparing my instruments the bowels acted copiously, but soon after, and before beginning the operation, he died, with all the evidences of sepsis. Evidently what happened here was, that the infected peritoneal fluid which was not absorbed while tension was high and the mesenteric and sub-peritoneal veins were occluded by pressure of the intestinal contents, rushed rapidly into the circulation and produced the rapidly fatal result once the large bowel was emptied.

I have recently had further proof of the danger of leaving peritoneal fluid to be absorbed. After removing a large enterolith from the small intestine I closed the abdominal wound without flushing the abdomen, which contained a light sherry-coloured fluid; three hours after the temperature went up, and at the sixth hour it reached 103.5° . Seeing the patient three hours later I examined the loins, and all dullness was gone, showing that rapid absorption had taken place. At this visit the temperature had fallen to 99.5° , and the following morning it was normal, no further disturbance taking place until recovery was complete.

These fatalities have convinced me that delay is a most serious matter in cases of obstruction, and the great tendency to advocate it is a deplorable evidence of a retrograde movement on the part of some writers of the present day. Indiscriminate laparotomy is not advocated by any surgeon, but the pretended fear of such a development is made a point on which to turn back to the unenlightened teaching of half a century ago, and a platform on which to exploit unfounded theories, the death knell of which has long since sounded in every home of surgical science in Europe.

I would now crave your attention while I bring under your notice a few of the cases in which I saw the patients before pathological processes rendered cure impossible.

Stricture at Splenic Flexure.

CASE I.—This case was sent to me by Dr. Murphy, of Skerries. She had had severe abdominal pain referred to the region of the umbilicus, and for some days there had been no passage of *fæces* or *flatus*. She reached St. Vincent's in a state of collapse, and on examination I found the abdomen tense and distended; quick, feeble pulse; tongue dark and dry, and indeed altogether looking as unfit for operation as possible. Assisted by Mr. Tobin, and in the presence of Dr. Murphy, I opened the abdomen in the middle line, and made a digital examination, when I found a dense nodule at the splenic flexure of the colon, and engaging the entire circumference of the bowel, and infiltrating the great omentum. I fixed a Paul's L-shaped tube in the transverse colon, supported it with glass rods on the abdominal wall, dressed the wound, and in a very few minutes after her admission she was in bed. On the sixth day the tube came away, leaving a free opening for fecal discharge.

This is a procedure of great value in cases of collapse, and however prostrated a patient may be he can be subjected to it without much risk; and when it is necessary, as in old people with irremovable strictures, it is less likely to prove fatal than either lumbar or abdominal colotomy performed by any of the other methods.

It has advantages—

(a.) It is very rapid.

(b.) It ensures close and accurate approximation of the intestine to the abdominal wall.

(c.) The L-shaped tube, being connected with a long rubber tube, discharges the contents of the intestine into a vessel under the bed, and not into the dressings, which are therefore unsoiled.

(d.) Healing is rapid as the wound is unirritated by the discharge of *fæces*.

The one disadvantage of this method is that there is no spur formed to prevent the passage of *fæces* downwards when we desire to make a permanent opening.

Intussusception.

CASE II.—This case was sent to me by Dr. Power, of Kildare, who deserves great credit for his early recognition of the cause of obstruction, and his promptitude in dealing with the matter.

The child, thirteen months old, was brought to St. Vincent's

Hospital about ten p.m. I happened to be the guest of Dr. Patteson that evening, and, fortunately for me and the child, Dr. Horne was near me. On learning that an operation was necessary, I asked Dr. Horne to accompany me, and at 11 p.m. we saw the child together. I found he had phimosis, which prevented evacuation of the bladder, which was distended. To the left of that viscus, and extending to the left of the umbilicus, we discovered a small ovoid mass, movable and semi-elastic. The napkins were stained with blood and mucus.

Before performing laparotomy I carefully circumcised the child, and emptied the bladder, which contained a considerable amount of urine. After thorough disinfection I made an incision from umbilicus to pubes. I spread warm sterilised towels all round the wound, and allowed the small intestines to protrude freely. This gave me plenty of room to manipulate the seat of invagination, which proved to be in the left ilio-lumbar region. Inversion had taken place at the ileo-cæcal valve. The first thing felt on introducing the fingers into the abdomen was a dense ring to the left and below the umbilicus, and from this downwards into the left iliac fossa; and over left side of true pelvis a firm mass could be felt, as large as a child's arm, and extending well into the true pelvis. This mass was dark in colour. The ring at upper part was grey, but shiny, showing that as yet the peritoneum was safe. Fearing that traction on the gut would endanger the serous coat, I passed my left hand well down into the pelvis, and compressed the tumour so as to free it as much as possible of blood. Then slight traction, aided by compression from below, caused a gradual disinvagination. When completely freed, we found the intussuscepted part œdematous and purple, but still glossy. While supported by warm sterilised towels I irrigated the bowels with boiled saline solution, under the influence of which the dark colour gradually disappeared, and peristalsis commenced. The intestines were now replaced in the abdomen, and the wound closed by a single row of deep sutures and intermediate skin sutures.

On the fifth day I removed one of the deep sutures, which seemed to be cutting through. On the seventh I removed the superficial sutures, and another of the deep ones, and was proceeding to complete the removal of the others when the omentum and a mass of small intestines bulged through the wound. This was a very awkward accident, but—thanks to the aseptic condition of the surgical department in which this case was—I was enabled without infection to return the intestines after irrigating them with boiled saline solution.

I now secured the edges of the peritoneum by a continuous

suture. A continuous line of musculo-cutaneous sutures completed the closure of the wound. This little mishap did not seem to affect the child in the least, and on the 10th day after re-suture the child left the hospital for the country in fine health. I have since heard from Dr. Power that the child is stronger than he has ever been. This I presume is due to the circumcision, as, no doubt, the phimosis caused such straining that it interfered with the child's nutrition, as well as being the direct cause of the intussusception.

Constriction by Band.

CASE III.—On January 17th, 1896, I was called to Dundalk to meet Drs. Kearney, Flood and Sellars in the case of Miss B., aged four years, who was suffering from intestinal obstruction. I made a rectal examination under chloroform and found the pelvis filled with a firm mass of small intestines. There was no trace of intussusception. The abdomen was tympanitic, but the liver dulness was present.

There was also an area of dulness and hardness below and to the right of the umbilicus.

No movements of the intestines were to be felt through the abdominal wall. The child was very restless, and the pain was paroxysmal in character. There had been no motion from the bowels since the 12th, although she had had calomel and other laxatives, as well as copious enemata.

I decided to operate at once, and as I came provided with the sterilising apparatus, containing gauze, sponges, dressings, towels, &c., I had only to boil the instruments in soda solution and have the child rendered as aseptic as possible by washing with soap and water, then applying 1 in 500 corrosive sublimate solution.

Operation—I made an incision two inches in length between umbilicus and pubes, and passed my index and middle fingers towards the ileo-cæcal part of the bowel. Finding that there was no invagination I proceeded to search carefully for the seat of obstruction, following the colon upwards. As my fingers were turning across through the abdomen, about the level of the umbilicus, they encountered a hard mass near the middle line, the intestine near being tense. By increasing the incision upwards I was enabled to turn out the omentum, and bring the small intestines into view, when I found several coils, dark purple in colour, and greatly enlarged. The enlargement was due to two causes—œdema succeeding vascular engorgement and distension with gas.

There was very little liquid or solid contents. The dark coils of intestines were turned out of the abdomen into warm sterilised towels, and on examining the nodule above referred to I found a dense band passing from it round the small intestine, and joining the great omentum on its posterior aspect.

Through the ring formed by the mesentery behind, the colon and meso-colon above, and the omentum and band below and in front, nearly all the small intestines had passed. The constriction by this band and the torsion of the mesentery combined to produce great hyperæmia; œdema and paresis followed.

The band was firm and very vascular, hence I applied a ligature at each end before its removal. The nodule I did not interfere with, as it was so close to the mesenteric border that interference with the blood supply to a section of the gut might follow its resection. After unfolding the intestine, and having the coils spread out on towels boiled in saline solution, I kept up irrigation with the same fluid at a temperature of 105° F., until peristalsis commenced and the colour of the bowel improved; then returning the intestines into the abdomen I closed the wound with stout silk sutures.

The after-history of the case was uneventful, the child making a complete recovery. I saw her during the summer, and she was the picture of health, and in the best of spirits.

Septic Peritonitis.

CASE IV.—The next case was brought to me from Skerries, and I do but justice when I commend the strength of character of his attendant, Dr. Murphy, who had the courage to bring him to hospital even in a moribund condition. For five days he had had high temperature, vomiting and abdominal tenderness, and he was gradually sinking, when, owing to the difficulty of carrying out an operation in his home, Dr. Murphy decided on removing him to St. Vincent's. When I saw him his aspect was bad, his face being pinched, blue, and bathed in a cold perspiration. He was almost unconscious, with a weak, irregular pulse, so rapid that it could not be properly reckoned. His temperature was 96.5°, breathing rapid and shallow. Abdomen distended and generally resonant, except to right of umbilicus, where a dull area, about the size of the palm of the hand, existed. Great blue patches covered the abdomen, the colour not disappearing on pressure. Liver and splenic dulness present.

On examining the rectum I found the small intestines filling the pelvis and very tense; bladder and rectum empty. Pressure on

coils of intestines elicited evidences of pain, and feeling that the trouble existed in the ileo-cæcal region I made an incision between umbilicus and pubes. During section of the abdominal wall only very dark blood and then an oily serum was discharged. The sub-peritoneal veins were found thrombosed, and the great omentum, which was of enormous size, was a greyish black, a mixture of fatty nodules and enlarged veins. I fancied I had discovered the cause of obstruction at the hepatic flexure of colon, but on pressure the hard mass felt there pitted, showing it to be faeces passing down along colon. I explored the cæcal region and examined the appendix. When passing my finger from the latter along the pelvic brim I felt a resisting coil of bowel and exposed it, to find that it was dark purple in colour. This was a guide to the seat of trouble. Pushing the omentum and colon up I brought the dark coils of the small intestines through into warm sterilised towels. I continued to withdraw the gut, following it upwards until I reached a part almost normal in colour. The same course was followed with the descending part. The dark colour ended one inch from the ileo-cæcal junction, which, together with the cæcum and appendix, was normal. All this time fluid, the colour of tawny port, was running from the wound and welling up from the pelvis, from which the deeply coloured intestines had been drawn. On examining the bowel more closely patches of grey were found scattered over it, but as the serous coat had not become roughened we decided that re-section was not demanded. The appearance was such as one would expect to find in enteric fever; so having satisfied myself that this enteritis and the peritonitis evidenced by the effusion in the abdomen were the cause of the serious symptoms, I restored the vitality of the extruded bowel by irrigating with boiled saline solution at a temperature of 102° F., and later 105°. Peristalsis commenced after gentle manipulation of the gut, and I now washed out the abdomen with warm sterile water, and returned the intestines. I now made a small opening above the pubes, passed through this a stout glass drainage tube into the recto-vesical pouch, filled the abdomen with warm neutral-saline solution, and closed the entire abdominal wound.

During the early stages of the operation it seemed as if the patient could not survive, but soon after the hot water was introduced reaction set in.

(To be continued.)

ART. XVI.—*A Case of Diabetes Insipidus.** By JOHN J. BURGESS, F.R.C.S.I.

IN bringing under your notice a case of this disease, I do so with the reluctance of one who has nothing to add to our knowledge of its ætiology, or treatment, and merely strive to justify a short and unimportant paper, by submitting it in order to obtain the views of the Academy on a subject which has never been before this Section, of a comparatively rare morbid condition of which the pathology is undetermined, the prognosis unknown, and the treatment empirical.

CASE.—Julia B., aged fifteen, somewhat stunted in growth; four feet eight inches in height; weight 77 pounds; rather anæmic, with yellowish discoloration of skin, which is dry with tendency to desquamation; menses not appeared yet; has always enjoyed good health, except from the effect of a fall on the back of her head four years since; and a feverish sickness, called by her medical attendant gastric fever, some two years ago. The injury caused by the fall made her unconscious for a short time, but was otherwise unattended by cerebral symptoms. When she recovered from the fever two years since it was noticed she drank large quantities of cold water—in fact, was consumed by a ravenous thirst; when the parents refused her enough to satisfy her, on the ground it might do her harm, she would drink water out of basins that had been used for washing purposes, buttermilk, porter—in fact, any ordinary fluid, short of urine, she could have access to. She was, in addition, passing large quantities of the latter secretion, which flowed involuntarily when she was asleep.

She came first under my notice for a bronchial attack, when I found out the above condition, in addition to the chest trouble.

She had been getting thinner for some time, although her appetite was normal; had never suffered from scarlatina; her tongue and mouth were dry, with brown fur in the centre of former; bowels constipated; passed fourteen to sixteen pints of clear urine, and drank, according to her own statement, nine pints of fluid daily. The circulatory signs were normal, and with the exception of, at the time, dry râles over her bronchial area, the lungs seemed healthy.

Her nervous system, if we except the polyuria and the asthmatic complication alluded to, presents nothing out of the common. She sleeps well. Her retina, examined by Mr. Montgomery, pre-

* Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, January 29, 1897.

sented no morbid change. I am indebted to my friend, Professor McWeeney, for a report on the urine to confirm observations made by myself. It is acid, non-albuminous, watery; sp. gr. 1,003; contains abundant chlorides; urea diminished; total daily quantity examined, 14 pints; inosite absent. Her family history is not particularly good; her father and mother are alive and well. One brother has been under my care for aphonia, with ulceration of the glossal surface of his epiglottis, from which he recovered under treatment. She has three sisters, who if not in robust are in good health; on the other hand, two brothers died in infancy from convulsions, and one sister from caries of the spine. There is no history of epilepsy, insanity, or syphilis, on either father's or mother's side; the members of this family give me the impression that although at present not suffering from acquired or hereditary disease, they yet are possessed of what one might call a delicate constitution.

She presents neither the increased flow of saliva noticed by Külz, nor the excessive craving for food alluded to in Trousseau's cases.

The treatment adopted was, first of all, purgatives by reason of the constipation. Afterwards valerian, ergot, belladonna, nitric acid, and other remedies advocated by zealous believers in their efficiency, one after another, for a period extending over 18 months, without any permanent amelioration of the polyuria.

The one form of treatment which I found gave any improvement was the employment of an occasional dose of calomel, which appeared to diminish for some days the diuresis, thus agreeing with Golding Bird (in his article on the subject published in 1849), who claims success by the use of purgatives.

Before the discovery of sugar in the urine by Thomas Willis, 1670, all cases of excessive diuresis were included in the common term diabetes; even afterwards, this sugarless form of polyuria was not noticed until the end of the 18th century, when Cullen made the division into true and false diabetes,

Robert Willis, in 1822, divided this disease into three forms, taking the amount of urea passed as his standard:—

1. When the urea was increased with the watery part—Azoturia.
2. When the urea was decreased below the normal amount for 24 hours—Anozoturia.

3. When the watery part was increased, the urea voided being normal in amount—Polyuria.

Vogel divided it into—

Hydruria—When the urea was normal or sub-normal with excessive urination.

Diabetes insipidus—When the urea was increased.

These distinctions have no longer a practical recognition, since urea may be increased or diminished by so many various factors—food, individual peculiarities, the washing out of the tissues with large quantities of imbibed fluid—that it would be unscientific to make of them different forms of the one disease, but rather to regard them as diurnal variations in the leading symptom. The age at which this disease appears is, according to the statistics of Roberts, Strauss, Van der Heijden, between 20 and 30, and the male sex more susceptible in the proportion of three to one of the female. That it is sometimes hereditary would seem to be proved by the statements of several observers, notably the cases mentioned by Weil of twenty examples of diabetes insipidus, from a total of 91 persons in 4 generations, and the family alluded to by Lacombe, where a mother, three sons, and a daughter, besides the mother's brother and his children, were affected. Hay has also frequently found it associated with family history of phthisis.

Its ætiology has been traced to—

1. Injuries of the skull.
2. Violent muscular efforts.
3. Violent emotions.
4. New formations in the brain.
5. Epilepsy.
6. Chronic diseases of the spinal cord.
7. Drinking cold water when heated.
8. The presence in the blood of a diuretic substance—Inosite.

The presence of the last was supposed to be pathognomonic of the disease; however, the minute quantity in the excretion, together with the experiments of Strauss and Külz, which showed it could be produced in health by getting persons to drink large quantities of fluid, negatived it as a specific sign, and merely due to the washing out of the tissues by the excessive water.

The diagnosis is from :

Interstitial nephritis.

Diabetes mellitus.

Amyloid kidney.

Pyelitis.

Hydronephrosis..

Hysteria.

In this case there was—(1) Neither sugar nor albumen present on the many occasions on which the urine was examined; (2) there was no wasting disease; (3) no pain or tumour; (4) the persistence of the symptoms and the age of the patient were against hysteria.

I am aware that most so-called cases of diabetes insipidus turn out on careful examination to belong to cirrhotic kidney, but I claim in this that ample time and repeated examination of the urine with the absence of the usual cardio-vascular phenomena entitle me to place this under the above heading beyond any possible doubt.

The pathology has been a difficult matter to determine, on account of the rarity of autopsies. The result of those obtained throw little light—some being negative, while a few point to the results of the physiological experiments of Bernard and Eckhardt, that lesions of the 4th ventricle or in the path of its afferent nerves produce polyuria.

Amongst the latter we find—

1. Tumour of the cerebellum.
2. Exostosis.
3. Tubercular disease.
4. Diseases of the sympathetic system (Eckhardt and Peyrane).
5. Diseases of the solar plexus (Dickinson).

Likewise carcinoma of the pineal gland (Minot).

Traumatisms of the hepatic region (Trousseau and Piorry).

The prognosis varies with different observers. Senator reports a case which lasted fifty years. In Weil's cases certain members of an infected family lived to 83, 74, 67, 76. Others have experience of cases which ceased abruptly after an intercurrent attack of one of the specific fevers. On the other hand, Neuffer reports a case which was fatal in four months from the inception of the polyuria.

The treatment, as one would expect from the uncertain nature of the disease, comprises innumerable drugs with a consensus of opinion in favour of valerian, ergot, and galvanisation of the neck. The conclusions to be arrived at seem to be—not from my own case solely, but on the authority of those who have made the literature of the subject—that the disease is purely functional, and has no destructive tendency on life; that it may be set up by injuries or diseases of the central nervous system, continuing after the acute effects of those have disappeared, in somewhat a similar manner to which pyrexia continues after the subsidence of one of the specific fevers, and that treatment, in most cases, is useless, unless the cause be peripheral and under our control, as in the case recorded by Jacobi where the polyuria ceased after the expulsion of a *Tænia medio-canellata*.

ART. XVII.—*A Case of Enormous Enlargement of the Spleen: Complete Recovery.* By MONTAGU L. GRIFFIN, M.B., B.Ch. Univ. Dubl., Plymouth.

THE following case of gigantic enlargement of the spleen, followed by complete recovery under treatment by arsenic, is interesting, especially as it was uncomplicated by any leukæmic condition:—

CASE.—Thos. D., age forty-two, brush-maker.

Family History—Good so far as he knows.

History—Fifteen years ago had typhoid fever, and was very bad. When he recovered and returned to his work he was troubled with "drawing pains" in his left side under the lower ribs, and used to think it was "the wind in the stomach." Six months afterwards he began to get stout in the abdomen, and used to suffer from indigestion. The doctor who attended him used to think "he was getting too fat;" having complained to him of "a loaded feeling across his stomach," he was advised to wear an abdominal belt for support, and he has continued to do so ever since. The first belt he had to cease wearing *five years* ago as it had become too small for him. The present one he had then made extra large, but this also has become too small; the buckles are now in the last hole; the belt itself does not meet across the abdomen, a space of five inches being left between the

unopposed ends. I judge, therefore, that for the last five years his girth has increased at least ten inches. Asked what his girth was prior to the fever, he says he does not know, but that he was "a wonderfully small man around the bowels," was "very wiry and active," and "does not suppose he had a spare ounce of flesh on his bones." He says that "he has never been the same man since the typhoid fever," but that he has managed to get along with his work "without a day's illness since then;" for the last six years, however, when the work of the day is over he feels tired; and latterly, when returning home, having changed his abode, he has to walk up hill, and finds himself exhausted often midway, and has to stop and take breath, and feels giddy and faint. He feels "as if his heart is not working right, and that he cannot draw as long a breath as he used to do." The girth around the waistband of his trousers measures 54 inches; these were made *six months' ago* "a special easy fit," but are now so tight that they have to be left open at the top button, which allows them to gape over an inch. His height is 5 feet 4 inches. He "wants to get rid of these indigestion feelings" if he can. He has "been dieting himself all he can" to avoid getting stout, and it only seems to make him worse; and he "does not think that any doctor can bring down his fat."

In spite of the patient first coming into my consulting room at night, I am struck by his pallor. His skin looks like pale yellow ivory. In so short a man the prominence of the abdomen is so great as to approach the comic element found in *Vanity Fair* cartoons. Feeling his arms and legs they are very muscular and as hard as an athlete's. Buccal and conjunctival membranes are anæmic; tongue is large, pale and flabby, but not coated. I asked him to strip, and put him on the couch in the dorsal decubitus. On inspection, the abdomen presented an appearance unusual in obesity. It did not fall down over each side of the hips, but stood up tense, prominent, and egg-shaped immediately from beneath the ribs. The latter I find are visible all over the thorax, and though his neck is short it is not a fat one, and he tells me that his collars are much looser than they were five years ago; he says "he cannot understand why all his fat has gone to his bowels." It appears that if anything there is a want of adipose tissue all over his body.

Palpation.—This is startling. I find that nearly two-thirds of the abdominal cavity is occupied by a tumour such as I have never before seen or felt outside those of ovarian growth. It emerges from the border of the left lower ribs and ensiform cartilage, and

extends downwards into the left iliac fossa, where the lower margin cannot be felt. Its inner margin sweeps in a gentle curve about one and a half inch to the right of the umbilicus (which is nearly as prominent as in that of a seven months' pregnancy); from thence it curves inwards again to about half an inch outside the left pubic spine, and is lost beneath Poupart's ligament. On turning him into the prone position, a swelling is visible in the left lumbar region, beneath the border of the left lower rib, and ends in a convex margin looking downwards, the tip of which almost reaches the posterior superior iliac crest. This tumour is soft, and feels more pliable than that on the front of the abdomen. The whole abdominal contents are now seen bulging the left flank, and it is evident that the contour of both sides of the abdomen do not correspond, the main prominence being in the left hemisphere. What I estimate to be the lower margin of the right lobe of the liver is to be felt two and a half inches below the ninth costo-cartilage junction. The remaining portions of the abdomen are fairly soft on deep palpation, but the walls of the abdomen are very tense. *Percussion* elicits femoral dullness all over the tumour, and over the area in which the liver is felt. In the upper right hand corner of the umbilical region a note resembling that of the stomach is elicited, but it is difficult to determine this, as on swallowing fluid the splash is not evident through the stethoscope.

Thorax—Respirations are of the thoracic type; the abdominal walls move only a little, even in forced inspiration, and that only over the right side of the abdomen. The sterno-mastoids stand out strongly, and the upper part of the thorax is somewhat barrel-shaped. There is no emphysema. The heart impulse is felt imperfectly in the normal position, but a strong thrill is given to the rib above.

Percussion of the thorax gives complete dullness, extending from the left 5th interspace to the margins of the lower ribs where it blends with that of the tumour in the abdomen, and likewise behind, from the level of the 11th dorsal vertebra downwards. No stomach note of resonance is to be elicited anywhere in the thoracic region.

Heart sounds—Normal. No hæmic murmurs are to be heard.

Lungs—Breath sounds completely annulled from level of left nipple to that of 11th dorsal vertebra behind.

Urine—Normal. Sp. gr. 1,015. No enlarged glands anywhere.

Blood—Examined. No increase in the number of white blood

corpuscles can be detected. Neither megalocytes nor poikilocytes present.

Patient wants my opinion and says that "from my face when I felt his bowels he is sure that I have found something very bad." I tell him that at present I can find no fatal symptom in his case, and that I hope that in a month's time treatment will prove that what I now believe to be the case is correct—viz., that his spleen is enormously enlarged, and that his breathlessness, poverty of blood, and size of his abdomen are due to this; but that he must cease from work for a week at least.

R. Liq. arsenicalia, ℥ v. Acid nitro hydrochlor. dil., ℥ v.

Infusi gentianæ co. ad ʒi ter in die ex aq. ʒi p. cib.

Diet—To avoid potatoes and pastry, of both of which he is very fond. (He has practically been a teetotaler since he was 21, and never exceeded one glass of beer in the day).

Next day his wife visits me, wishing to know what is wrong with her husband, saying that he is in a dreadful state of depression, as he feels sure that I have found a cancer in him, and that I do not want to tell him. I tell her that he has an enormous tumour in the abdomen, so great that if it had been of a cancerous nature he could not have lived so long, but that it may be another disease than cancer, which may prove fatal if it does not yield to treatment. She then asks me to have a consultation to ease her mind, to which I agree.

Seen with Dr. Richard Wagner on the following day. He agrees in giving the case the benefit of a trial on arsenic, suggesting the addition of five grains of ferri and ammon. citrat. to the mixture.

The subsequent history of the case is one of steady and uninterrupted recovery under a gradual increase of arsenic up to first physiological signs, and remissions to the minimum dose, again increasing, and so on. *Twenty-one months* after the commencement of treatment the splenic area of dulness is now normal, and nothing can be felt below the ribs. Six weeks after the consultation I sent the patient to Dr. Wagner, with the inferior margin of the tumour to be felt four inches above the pubic spine and one inch above the anterior superior spine, and to be felt distinctly moving downwards on deep inspiration. He has seen the case since and noted further improvement. The patient very quickly began to mend in health, and in two months' time declared himself to be

better than he ever felt since the fever, fifteen years before. His present girth is 12 inches less than when I first examined him; but this gives no estimate of the reduction in the tumour, as he has put on flesh everywhere in a marked degree. The *anæmia* altogether disappeared by the tenth month of treatment. The area of hepatic dulness became normal as the spleen shrank away from it. I think that its enlargement was only apparent, and due to the displacement of a plastic organ which was squeezed laterally. It has been proved on criminals in France, executed after eating a hearty meal, that the full stomach pressing upon the liver laterally makes the right lobe descend even as much as two inches below the so-called normal position, as proved by the series of frozen models afterwards taken from the victims.

Remarks.—The interest in this case depends on the almost complete absence of symptoms in the face of such physical condition as may well be called stupendous. The judgment shrinks from estimating even the weight of the tumour which this man carried in his abdomen, one may safely say, for years. It rested in his left iliac fossa and was fixed there, whilst it rose so high into his thorax as to displace the heart upwards and to annul the respiratory function of the left segment of his diaphragm. It pressed the liver to the right and the left kidney backwards, so as to make a *visible* tumour in the left lumbar region behind. How it treated the stomach and bowels I am unable to say. Yet the patient comes into the consulting-room complaining of dyspepsia, and only casually alludes to the fact that he has for years been growing too fat. That the *anæmia* was not excessive was evident from the comparatively slight functional derangements and the blood analysis, together with the fact that so soon as the tumour rose out of the pelvis and became movable his breathlessness ceased. And, finally, it is worthy of note that until the man was stopped working for fourteen days by me he had never missed a five hours' working day for fifteen years.

NOTE.—I regret to say that a note on the count of the relative proportion of white to red blood corpuscles, which

I made during the second month of the treatment of this case, has been lost. But it was remarkable only in that it showed no excess in the number of leucocytes. It is eight months since I wrote the above notes on the case, and to-day (March 19th, 1897) I have examined the patient once more. The area of splenic dulness is normal. The man is in good health, but does not work so hard as before. He still takes the medicine, but with less regularity.

ETHER V. CHLOROFORM.

DR. W. S. CALDWELL, in September last, read a valuable paper before the Mississippi Valley Medical Society, which gives his experience, gathered in 40 years' practice, of the superiority of ether as an anæsthetic. Surprised that "at the meeting of the American Association of Railway Surgeons at St. Louis, while the subject of the merits of chloroform and ether were being discussed, a vote was taken as to the preferences of that body for these two drugs, and 105 of those present advocated the use of chloroform, while only 16 were on the side of ether," he addressed over two hundred circulars to surgeons practising in Baltimore, St. Louis, and northward. The result is thus summarised:—"I find my replies as sectional as politics, nearly every advocate of chloroform was west of Buffalo. Chicago was about equally divided between chloroform and ether; the further west I got my replies from, the more generally did the writers use chloroform. . . . St. Louis is three-fourths chloroform. I only sent my circulars to the homœopaths connected with the large colleges and hospitals, and the replies I got were all in favour of ether. New York, Philadelphia, and Boston use ether exclusively, according to the replies sent me, except in a few instances where the surgeon began the anæsthesia with chloroform and then followed it with ether. Of those who have answered my questions, 60 per cent. use ether, 25 per cent. use chloroform, and 15 per cent. use various mixtures of ether and chloroform, mostly the A. C. E. mixture. My correspondents reported 127 deaths from anæsthesia, that they had in their own practice, or known in the practice of others. Of this number, 15 were from ether and 112 from chloroform." The paper, which well repays perusal, was printed in the *Journal of the American Medical Association* for December 19th, 1896.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science by Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M.D., New York City. In Twenty Volumes. London: Sampson Low, Marston & Co., Ltd. Vol. VII. 8vo. Pp. 796. 1896. Vol. VIII. 8vo. Pp. 667. 1897.

CIRCUMSTANCES have led us to fall a little behindhand in noticing the further instalments of this immense work which have been published since our last notice. And so it comes about that two portly volumes lie before us, claiming review.

The first of these to appear was Volume VII., the subject-matter of which is stated to be "Diseases of the Respiratory Organs and Blood, and Functional Sexual Disorders." This partakes rather of the nature of an *olla-podrida*, as our Spanish friends would say, which old Ben Jonson explains as "any incongruous mixture or miscellaneous collection." When we come to study the table of contents, we are still less satisfied to find that the diseases of the respiratory organs treated of in this volume are—"Diseases of the Pleura," "Asthma," "Hay-Fever," "Diseases of the Mediastinum," "Diseases of the Diaphragm." Surely on the threshold of the twentieth century a good deal could be said in favour of classifying both asthma and hay-fever among the "Neuroses" or "Functional Diseases of the Nervous System," while "Diseases of the Thorax" would more appropriately include mediastinal and diaphragmatic lesions than "Diseases of the Respiratory Organs." The diaphragm, of course, is in a sense a "respiratory organ," but so are the intercostal and those other muscles which take an active part in respiration.

After "Diseases of the Blood" comes an excellent mono-

graph on "Rachitis" from the pen of Jules Comby, of Paris. Surely it should have formed part of a volume on "Diseases of Children." "Functional Sexual Disorders" form the closing portion of this badly-arranged volume, and they are made to include the disorders of menstruation, and the "chemical and microscopical examination of the urine." Clearly Dr. James M. French's elaborate article on the last-named subject should have been incorporated with a volume on "Diseases of the Urinary Organs," or, if written too late to appear in it (Vol. I.), it should have been relegated to an Appendix.

Having said so much in the way of adverse criticism, we gladly accord our meed of praise to the majority of the articles which make up this volume. Dr. Herbert B. Whitney, of Denver, has evidently had exceptional opportunities of studying diseases of the pleura, and accordingly he writes on that topic with authority and clearness. Professor Franz Riegel, of Giessen, contributes a good article on Asthma. At page 131, Biermer's physical sign of emphysema is called the "box" or "pillow" tone. The original "Schachtelton" means "bandbox-sound." The author is evidently inclined to adopt Gollasch's theory that Leyden's crystals, found in the sputum of asthma, are crystalline derivatives of the eosinophile cells. This view is supported by Seifert's investigations, which go to show that on histological examination of portions of the nasal tissues from which—after some hours in the moist chamber—numerous crystals were formed, great numbers of eosinophile cells were found; while, conversely, in portions of tissues in which no crystals were formed in the moist chamber, only a few eosinophile cells were present.

A very instructive article on "Hay Fever" is contributed by Dr. E. Fletcher Ingals, of Chicago. He states that there are three essential factors in the ætiology of this malady—first, the neurotic habit; second, local hyperæsthesia; and third, the presence of irritating substances in the atmosphere. The most common exciting cause of the attack is the pollen of "*Ambrosia artemisiæ folia*," known also as Roman wormwood, ragweed, or hogweed, or that of *Solidago odora*, known commonly as golden rod.

The other authors of monographs in this volume are—Dr. Charles W. Allen, of New York, who writes on functional disorders of the male sexual organs; Dr. Jules Comby, of Paris (rachitis); Dr. Charles Greene Cumston, and Dr. Ernest W. Cushing, both of Boston, who contribute a joint article on the disorders of menstruation; Dr. E. Main, of Paris (diseases of the mediastinum and of the diaphragm); and Dr. Alfred Stengel, of Philadelphia, who writes at great length on diseases of the blood. This last contribution is probably the ablest monograph on the subject which has appeared for many years. It is divided into sections on "The Blood," "Clinical Methods of Examining the Blood," "Pathological Changes in the Blood"—namely, plethora, oligæmia, hydræmia and anhydræmia, coagulation, lipæmia, melanæmia. Then the author describes such morbid conditions as leucocytosis, hypoleucocytosis, polycythæmia, anæmia, chlorosis, progressive pernicious anæmia (splendidly done), leukæmia (we much prefer Bennett's term "leucocythæmia"), Hodgkin's Disease (why is this included among "Blood diseases"?), anæmia infantum pseudoleukæmica, hæmocytolysis, hæmoglobinaemia, paroxysmal hæmoglobinuria, purpura in its various forms, scurvy, and hæmophilia. Dr. Stengel's monograph occupies nearly 300 pages of the large volume under review, and it will repay a careful study.

The greater part of the eighth volume is devoted to "Diseases of the Digestive Organs," beginning with the mouth and ending with the peritoneum. The last 150 pages are given up to "Animal Parasites and the Diseases caused by them" (by Medicinalrath J. Ch. Huber, M.D., of Memmingen, Bavaria, author of the *Bibliographie der klinischen Helminthologie*), and a section on the "Treatment of the Diseases caused by Animal Parasites," written by Dr. James M. French, of Cincinnati, the lecturer on morbid anatomy and demonstrator of pathology in the Medical College of Ohio.

"Diseases of the Mouth" have been clearly handled by Dr. Johann Mikulicz, Professor of Surgery at the University of Breslau, in co-operation with Dr. Werner Kümmel, Privatdocent at the same University. Dr. Reginald H

Fitz, of Boston, Hersey Professor of the Theory and Practice of Physic, Medical Department, Harvard University, contributes an able article on "Diseases of the Œsophagus;" while "Diseases of the Stomach" find an exponent of high reputation in Dr. Max Einhorn, of New York. His exhaustive treatise—for such it is—runs to some 250 pages, and is illustrated by 177 bibliographical references.

Dr. Hans Leo, Ph.D., Professor of Internal Medicine at the University of Bonn, writes on "Diseases of the Pancreas." Dr. B. Farquhar Curtis, Professor of Clinical Surgery in the New York Post-Graduate School, is the author of a monograph on "Diseases of the Peritoneum," which includes a full account of "Appendicitis" under the sub-heading "Special Forms of Peritonitis."

This brief analysis will suffice to show how extremely interesting are the contents of the eighth volume of "Twentieth Century Practice."

Dental Surgery for Medical Practitioners and Students of Medicine. By A. W. BARRETT, M.B., M.R.C.S.E., L.D.S.E. Third Edition. Illustrated. London: H. K. Lewis. 1897.

MR. BARRETT has, we think, succeeded well in the task he has set himself—that of preparing a small work on Dental Surgery suited to the requirements of the medical practitioner and student. Consisting of 152 pages, the book is divided into thirteen chapters; of these the first three are given to the description of the several teeth and of the eruption-ages of each dentition. Irregularities are next considered, following which is found a *résumé* on Dental Caries, in which the author has managed to include a large amount of up-to-date information in quite a small compass. Several excellent illustrations, here as elsewhere, considerably enhance the context. Toothache—its varieties—the causes and treatment of each sort are fully gone into, perhaps more in detail than would be necessary for a medical practitioner's wants. Some information is next given concerning artificial work, and we are glad the author is not very favourable to the system of "bridge-

work," so-called. Under "Anæsthetics," a suggestion as to the substitution of chloroform in place of N_2O gas, in the case of "nervous hysterical girls" who do not take the latter well, is, we think, in the face of so much evidence as to the danger of chloroform, not a happy one, especially as ether is so much safer, though more unpleasant. A description of the proper forceps for extraction of each tooth, and mode of using same, must prove a readable and instructive few pages to him who peruses them. The small volume has been well got up, and is really written in an interesting and simple style. Already two editions have been exhausted.

Refraction of the Eye: its Diagnosis and the Correction of its Errors. By A. STANFORD MORTON, F.R.C.S. Sixth Edition. London: H. K. Lewis. 1897. Small 8vo. Pp. 74.

THIS being the sixth edition of Mr. Morton's excellent little book, we congratulate him upon its well-merited success.

Without materially altering the subject-matter of the book, the issue of a new edition has afforded the author an opportunity of revising and amplifying some points in the work which appeared to require further elucidation. We have always considered this a most valuable contribution to ophthalmic literature, and a great help to the student of refraction.

Intestinal Intoxication in Infants. By F. W. FORBES ROSS, M.D., Clinical Assistant, Children's Hospital, Paddington Green, London. Rebman Publishing Co. 1897.

THIS book has certainly been published at the right time, and no matter what we have to say to the way in which Dr. Ross has performed his self-imposed task, we must congratulate him on his attempt to elucidate these very fatal conditions. The enormous infantile mortality is largely recruited from the ranks of diarrhoea, and it is a most perplexing study. This book will perhaps only be opened by

those who are specially interested in the subject. We think those physicians who, from the nature of their surrounding practice, or their study of the peculiar diseases of children, are devoting their attention to it, will gain some information from a perusal of it. We have much praise to give to it, but at the same time we take exception to some of Dr. Forbes Ross's views.

Children are very different from adults, and the opening chapter reviews a few of these disparities. Dr. Ross, however, only touches the fringe of the subject. We cannot agree with Dr. Forbes Ross in his views of cholera infantum. He strongly holds that it is a "heat stroke." Now we know that it is almost confined to very hot weather in summer and autumn, but there appears to be little doubt that it is infective in its nature.

There are some most excellent thoughts in Chapter VII., on Evacuation of the Bowels, which everyone would benefit by reading. There is throughout the book a large amount of deep and obscure hazy theory, here and there illumined by some brilliant spots of true light. The publishers have drawn our attention to Chapter XI. as being useful to Public Health bodies, especially with reference to the milk trade. It is truly most excellent, and should attract the attention of medical officers of health. This chapter might well be developed into a pamphlet by itself on the milk-feeding of infants. Antiseptic drugs are well reviewed. There are some errors in proof correcting, such as "sceptic" for "septic," "pollickes" for "follicles," &c., &c.

The arrangement of the book is bad; in fact, there is no arrangement at all. It is a loose collection of some extremely valuable facts and practical points of the greatest interest, but they are huddled together with a great deal of obscure theory. We most strongly deprecate this kind of writing; Medicine as a profession is much damaged by it, and our world of to-day is flooded with it. It truly is a hindrance to our progress, and we hope that in the future it may become less. As an instance we would quote *one sentence* from Chapter XIV., p. 80:—

"Granting any determining cause as chill, etc., the influence played by the action of the chemico-mechanical irritants, purely

toxic irritants or ptomaines and the simply mechanical irritation of undigested food—in the first place leading to vascular engorgement and increased secretion of mucus, this mucus undergoing acid fermentative change, and the occurrence of swelling with tenderness, and with an increased transmission of sensory reflexes which in their turn react upon the vessels promoting further vasomotor relaxation, with consequent augmented sensibility, now calling forth motor action of the bowel, then muscular contraction pressing on already inflamed and tender mucous membrane, bringing it in closer contact with solid food particles, coupled with the intestinal pressure of pent-up gases—soon leads finally to almost complete vasomotor inhibition, and produces systemic results in the form of derangement of temperature and cardiac action, with inhibition of bile secretion and further consequent fermentative irritation, followed now perhaps by active vaso-dilator reflexes, and an active loss now sets in from the capillaries of the mucosa direct, thus producing frequent watery evacuations of the bowel, and an active and alarming condition known as infantile cholera (secondary) is fully set up.”

The man who confidently knows that all these changes actually take place has not yet been born!

But how then can Dr. Forbes Ross say (on page 90), after the foregoing elaborate announcement, that—“Properly speaking, true cholera infantum is really a heat stroke.”

Dr. Ross has, however, done some good work in bringing together many important facts.

If there is another edition we hope more system will be introduced, and all hazy theories totally expunged.

The index is very full.

Handbook of the Clinical Research Association, Limited. With the Annual Report for 1896. London: Ash & Co. 1897. Pp. 72.

THE success of the Clinical Research Association is assured, seeing that during an existence of little more than two years the Association has secured a membership exceeding 2,400. During the past twelve months 7,227 specimens were submitted for examination, and the handbook contains a short report on the work done in each department,

while its usefulness as a book of reference is established by the directions it contains as to the preparation, preservation, and transit of specimens.

The fees charged by the Association are fixed as low as is compatible with reliable work by first-class experts, and since the last Report various new features have been included within the scope of the Association's work. Among these is the addition of a complete department for Medical Photography, including the Röntgen Ray work; the supply of typical microscopical slides for teaching purposes; and the invention of a portable sterile swab for the obtaining and transit of material from the throats of patients suspected to be suffering from diphtheria.

The Reports of the Chemical, Bacteriological, and Histological Departments for the year 1896 are full of interesting matter, and bear eloquent testimony to the popularity and usefulness of the Association. The list of members of the Association includes some of the best known names in the three divisions of the Kingdom.

Practical Hints on District Nursing. By AMY HUGHES, Superintendent of Nurses, Bolton Union Workhouse; late Superintendent of the Central Training Home, Queen Victoria's Jubilee Institute for Nurses for the Sick Poor. Burdett Series, No. 1. London: The Scientific Press, Limited. 1897. Pp. 99.

THIS little book of about 100 pages is excellent from beginning to end, thoroughly practical, and giving a clear exposition of the duties which devolve upon a district nurse and of the wholesome influence she may, with tact, sympathy, and common sense, exercise over her patients and their friends, bringing sunshine, cleanliness, and fresh air into the most miserable dwellings, and doing all this with the courtesy and kindness so much appreciated and reciprocated by the poor themselves.

Miss Hughes claims for District Nursing that it is fast becoming a "power in the land," and those who read her book will be convinced that her aim is not too high. We trust that an impetus may be given to the work this year

by a large share of the thankofferings of her Majesty's loyal subjects for her long and prosperous reign being devoted to the cause so dear to her heart—the skilful nursing of the sick poor in their own homes.

Index-Catalogue of the Library of the Surgeon-General's Office, United States Army. Authors and Subjects. Second Series. Vol. I. A—Azzurri. Washington: Government Printing Office. 1896. Quarto. Pp. [14] + 828.

WE miss the well-known name of "John S. Billings" from the letter presenting this volume to General George M. Sternberg, Surgeon-General, U. S. Army. That letter is signed "D. L. Huntington, Deputy Surgeon-General and Lieut.-Colonel, U. S. Army," on whose shoulders the mantle of Dr. Billings seems indeed to have fallen.

The first volume of the second series of the world-renowned "Index-Catalogue" includes 6,346 author-titles, representing 6,127 volumes and 6,327 pamphlets. It also contains 7,884 subject-titles of separate books and pamphlets, and 30,384 titles of articles in periodicals. There is also a long "first addition" to the alphabetical list of abbreviations of titles of medical periodicals, which was published in the sixteenth volume of the first series of the Index-Catalogue.

The general plan of the undertaking remains unaltered.

We wish Deputy Surgeon-General Huntington every success in his herculean task.

A. Pictorial Atlas of Skin Diseases and Syphilitic Affections. Edited and annotated by J. J. PRINGLE, M.B., F.R.C.P. Part VIII. London: The Rebman Publishing Company. 1897.

THE eighth part of the Pictorial Atlas includes four photolithochromes, with the accompanying descriptive letterpress. The subjects illustrated are—Epithelioma arising from a lupus scar, erythema iris, lichen planus of Wilson of the papulo-erythematous variety, and "Biskra buttons" M. Lucien. Jacquet reports the first and last of these cases.

Both are in their own way horrible. In the first a disfiguring and hideous epithelioma, grafted on a lupus scar, occupies the whole of the right cheek, extending from the centre of the cheek forwards to the nose and mouth, upwards to the eye, and backwards to the ear. The neoplasm spread rapidly, and the poor woman died on June 11, 1886.

Commenting on the case of Biskra button, M. Jacquet observes that it is singularly like the "Aleppo button," and, indeed, both are strikingly like all the other "buttons" or "boils" which come from the East. He recommends that Mons. Besnier's comprehensive term—"endemic oriental boil," or "endemic boil of hot countries"—should be adopted instead of the more puzzling local appellations for the malady.

Probably the most interesting illustration in the present part of the Atlas is that of lichen planus (Wilson) from a model by Baretta in the Saint Louis Hospital Museum, made in 1885, from a patient under the care of Mons. Hallopeau. The patient was a widow, aged 55, who had suffered for two years when admitted to the Saint Louis Hospital.

Herbal Simples approved for Modern Uses of Cure. By W. T. FERNIE, M.D.; Author of "Botanical Outlines," &c., &c. Second Edition. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Hirschfeld Bros., 82 High Holborn. 1897. 8vo. Pp. 652.

WHEN noticing the first edition of this charming book in our number for January, 1896 (Vol. CI., No. 289, Third Series), we expressed the hope that "*Herbal Simples*" might see many editions. That hope seems likely to be realised, for the second edition now lies before us, considerably enlarged and, we venture to add, improved in most respects. There are, however, several printers' errors which mar the effect of many of the Latin quotations in its pages, the most frequent being the substitution of the diphthong "œ" for "æ," even in the proper name *Æneas* (page 320). Greek words also are printed in English letters, and are sometimes misspelt, as "riza," "root," on page 321.

Were we inclined to be critical, we should take exception

to the very fanciful derivations of botanical names which abound—for example, *Quercus*, an oak, which “is so named from the Celtic ‘quer,’ beautiful; and ‘cuez,’ a tree” (page 17). The word “officinal” is everywhere used in mistake for “official,” and the pages of the work are widely leavened with homœopathic lore and indeed doctrine. But leaving these points aside, the book will be found delightful reading. It brings one back to the days of empiric medicine, when analysis, and still less synthesis, had not been thought of.

There is a strange statement at page 577 to the effect that turpentine “excites the secretion of urine, *to which it imparts a violet hue.*” This is quite new to us, but we are well aware that turpentine readily causes the urine to give off an odour of violets, and this too even when it is applied externally, as in an epithem or fomentation.

A silken thread of poetry runs through Dr. Fernie's book, and many an old wives' tale is once more told in its pages.

Appropriately enough, the work is brought to a close with Robert Herrick's beautiful lines, written in 1650:—

“Farewell, sweet flowers!—whose time is fitly spent
For all delights of colour, and of scent;
And after death for cures!
May I my days with equal uses fill,
Living to work some benefits; and still
Having an end like yours!”

GAZETTE MÉDICALE DE PARIS.

OUR valued contemporary began a new series with the new year. In spite of its name, which it retains, it will be henceforward a surgical journal, devoted chiefly to operative surgery. Dr. Pierre Sebileau retains his position as editor-in-chief.

THOUGHT-WEIGHING.

PROFESSOR Mosso, an Italian physiologist, has invented a thought-weighing machine, consisting of delicate balances so contrived that they weigh the varying amount of blood in the brain. The activity of the brain is in direct proportion to the amount of blood therein. According to a local newspaper report, the machine is so delicately constructed that it readily detects the difference in the exertion required to read Greek above that necessary to read Latin.—*Med. Rec.*

PART III.

SPECIAL REPORTS.

REPORT ON MATERIA MEDICA AND THERAPEUTICS.

By **WALTER G. SMITH, M.D.**; Ex-President of the Royal College of Physicians of Ireland; Professor of Materia Medica, School of Physic in Ireland, Trin. Coll., Dubl.; Physician-in-Ordinary to His Excellency the Lord Lieutenant; Physician to Sir P. Dun's Hospital.

THE field of therapeutics has, for the past year, been largely occupied by discussion of the various forms of treatment with antitoxins of different kinds. But this is a wide question into which we have not space here to enter. Suffice it to say that for diphtheria at least the evidence goes to show that, by the new treatment, the mortality of this disease has been sensibly lessened, and some of its terrors abated, so far at any rate as obstruction in the larynx and trachea is concerned.

Atrol is the odd name given by Dr. F. Lüdy, of Basle, Germany, to an oxy-iodogallate of bismuth prepared by a firm in Baale as another substitute for iodoform. Chemically it is bismuth subgallate (*Dermatol*) in which one of the hydroxyl radicles is replaced by iodine. It is a fine greyish green, odourless and tasteless powder, unaffected by sunlight, but gradually decomposed by moisture to a more basic red powder. It forms a fairly stable emulsion with glycerine and water. It has been used successfully in the powder form and as an ointment with vaseline, dehydrated lard or cocoa butter, in ulcers of the leg principally. Dr. J. Fahm, of Basle, reports excellent results not only externally in burns and varicose ulcers, but internally in a twelve

year old girl suffering from tubercular enteritis, administered in doses of 200 milligrammes (about 3 grains) twice in twenty-four hours.—(Squibbs' *Ephemeris*).

Dr. Haegler also speaks well of airol as conforming to these four conditions which an efficient substitute for iodoform should possess:—

- (1.) It is less poisonous than iodoform.
- (2.) It is inodorous.
- (3.) It does not irritate the skin.
- (4.) It should yield sufficiently readily a proper amount of iodine, or equivalent active antiseptic.

Airol contains 44·5 per cent. Bi_2O_3 , and 24·8 per cent. iodine.

Time must show whether it is come to stay, or whether, like so many other novelties, it appears but to flit across the therapeutical horizon and vanish as quickly as a falling star.—(Reprint from *Beiträge z. klin. Chir.*, xv.).

Europhen has not been quite lost sight of. Kopp (*Aerztlicher Central. Anzeiger*, September 20th, 1895) has employed this remedy in 19 cases of soft sore, 9 of inguinal bubo, and 7 of mucous tubercles in the genito-crural and anal regions. The average time required for healing was seventeen days, about the same as with iodoform. *Europhen* was also found very useful in two buboes which had burst and become converted by infection into large venereal ulcers. These healed in twenty days under the use of *europhen* 1 in 3, with boric acid. A similar mixture, of the strength of 1 in 6, was employed with success in the treatment of seven other simple buboes after scraping. *Europhen*-boric powder 1 in 4 aided the healing of mucous tubercles, the patient being under mercurial treatment. The condylomata skinned over in three to ten days. Kopp considers that *europhen* is less irritating than any other odourless antiseptic powder; that it is specially indicated in the treatment of venereal ulcers after scraping; and that it is useful, but not irreplaceable, in the treatment of other specific and non-specific ulcerations.—(*Brit. Med. Jour., Epit.*, Jan., 1896).

Saalfeld also prefers *europhen* to iodoform, and finds that it arrests hæmorrhage.

Gelanthum is a watery varnish, introduced by Unna

(*Brit. Med. Jour.*, Oct. 17th, 1896). It represents a combination of tragacanth and gelatin, and constitutes a cooling protective application, which can be readily medicated with other drugs, fatty or otherwise. It is more convenient to use than zinc-gelatin, and Unna thinks it will be found especially adapted for cases of extensive eczema and prurigo, with thickened epidermis.—(*Therap. Monatsh.*, Oct., 1896).

Argonin, a combination of silver with casein, is advocated in the treatment of gonorrhœa. The favourable opinion pronounced upon this new remedy by foreign writers is confirmed by Mr. Ernest Lane (*Year Book of Treatment*, 1897, p. 278), who is perfectly satisfied with the results obtained by him in a considerable number of cases of acute gonorrhœa. It is, unfortunately, an expensive article. Argonin is a white powder, and 15 parts contain as much silver as one part of silver nitrate. Jadassohn was the first to make use of it, and Swinburne, Lewin, Bruder, and others testify to its value.

It may be employed, in aqueous solution (obtained by careful heating over a water bath), in a strength of $1\frac{1}{2}$ to 2 per cent. This solution is injected five times daily, the fluid being retained in the urethra for five minutes. No inflammatory reaction ensues, the pain is trifling, and it speedily destroys the gonococci.

Sulphur.—Dr. Miller, Surgeon to the Edinburgh Royal Infirmary, draws attention to the value of sulphur as a local application to weak and indolent ulcers. He was incited to try it by reading a lecture by Mr. Arbuthnot Lane on the "Treatment of Tubercular Disease of Joints" (*Clin. Journal*, 4th July, 1894, and *Lancet*, 7th April, 1894), and confirms Mr. Lane's conclusions:—

"1. Sulphur appears to exert no deleterious influence on the health of the patient.

"2. It gives rise to products which are powerfully caustic in their action, so that the drug must be used in small quantities and with discretion. The most active agent produced is apparently sulphuric acid.

"3. It destroys all organisms, whether free in a cavity or invading the surrounding tissues.

"4. It acts more powerfully upon recently-incised structures than upon granulating surfaces.

"5. Its action is rendered more uniform and general and less violent by mixing it with glycerine.

"6. If the drug be used in any quantity, it must be removed within a very few days. Twenty-four hours is generally quite sufficiently long for the sulphur to produce its destructive action in a recent wound."

The following is the manner of application:—

1. On an open surface, whether of a recent wound (as at an operation) or of an ulcer, the sulphur, in fine powder, should be gently rubbed in with the finger, and the wound or sore dressed with an antiseptic dressing. No effect is produced on the surgeon's finger whatever.

2. In the case of an abscess, or other septic or tuberculous cavity, the sulphur is injected suspended in glycerine (3i to ʒi).

The consequences have been described already—first, a slight burning pain; next, a strongly smelling discharge (from the gaseous products of the sulphur); third, a slough, varying according to the character of the wound (recent or granulating) and the amount of sulphur applied; and, lastly, there is the therapeutic (germicide) action. The burning feeling, if complained of, can be mitigated or removed by cocain. As a rule, when the slight slough produced by the sulphur separates (in a day or two) healthy granulations are manifest, and Dr. Miller has not infrequently seen sores heal in a week or two that had resisted all other treatment for months.

Tannin Derivatives.—Several new compounds of tannic acid have been proposed for use.

Tannalbin is an albuminate of tannin which contains 50 per cent. of tannic acid. It is said to be almost insoluble in the stomach, and slowly soluble in the intestine, and hence valuable in cases of subacute or chronic intestinal catarrh. Tannalbin is a brown tasteless powder. Dose 0.5 to 1 gramme, up to 10 grammes in a day.—(*Vierordt. Deut. med. Woch.*).

Tannigen—a diacetyl derivative of tannin—is well spoken of by several observers. It is a yellowish grey powder, inodorous, and tasteless. It is said to resist decomposition in the stomach, but is broken up in the duodenum and liberates tannin in the nascent condition. Dose 2 to 8 grains, and

upwards, in milk or wine, 3 or 4 times a day. Müller, Kunkler, de Buck, Drews and Escherich, recommend the drug, especially in the diarrhœas of children.

Amyloform—a compound of formaldehyde and starch—is a white, odourless powder. It is recommended by Longard as an excellent dressing for wounds and ulcers. Devoid of irritating and toxic qualities it acts efficiently as a deodorising antiseptic, and restrains secretion. Moreover it is moderate in price.—(*Therap. Monatsh.*, Oct., 1896).

Formalin (40 per cent. solution of formaldehyde) has come to be quite a valuable agent as an antiseptic and deodoriser, aside from an increasing value in technical uses. It has now been abundantly proven that it is far more efficient and in much less quantities than corrosive sublimate, borax, boric acid, salicylic acid, and benzoic acid. Although chlorine is still acknowledged as the best known disinfectant, yet it does not always give satisfactory results, often chiefly due to the lack of the necessary moisture to produce the proper results. Dry chlorine gas is inefficient. In the case of formalin (formaldehyde in the form of vapour) no moisture is called for, and quite as efficient results are obtained as with chlorine in such places as the sick room and hospital ward. Some observers claim its superiority over chlorine. An additional advantage possessed by formalin is that it does not destroy the contents of the dwelling room.

Quite recently this agent has been effectively used as a preservative of foods (meats and vegetables). It is claimed that a one to two per cent. solution preserves fruit and vegetables not only in the ordinary sense, but in some cases does not destroy their fresh appearance.

The preservation of milk has been attempted with it, and with some good results, but there is still some dispute as to both the propriety and efficiency of this use.—(Squibbs' *Ephemeris*).

Lamarque (*Assoc. Franç. pour l'Avancement des Sciences*, 24th Session, Bordeaux) has used formol in 1 per cent. solution for washing out the bladder and urethra, and in 5 per cent. solution for instillation in these localities. In acute gonorrhœa and in gonorrhœal cystitis the results have not been very encouraging; in the chronic gonorrhœa they have been better. It is particularly in cases of tuberculous

cystitis that the treatment has been successful. The only disadvantage is the pain caused by the drug; this, however, though intense at first, quickly ceases. Daily washings with formol solution have been effectual in stopping hæmaturia, relieving pain, and lessening frequency of micturition in cases where every other treatment had failed.—(*Brit. Med. Journal, Epit.*, 1896).

Eucaine is proposed as a local anæsthetic. Its chemical name is alarming, for it is the methylester of benzoyl-n-methyl-tetra-methyl-gamma-oxy-piperidine-carboxylic acid. Its physical characters were thus defined to the Berlin Pharmaceutical Society by G. Merling:—

“*Eucaine* base crystallises from ether or alcohol in large glistening prisms, which melt at 104° C. *Eucaine* hydrochloride crystallises from methyl-alcohol solutions in large glistening efflorescent prisms containing two molecules of methyl-alcohol, and from watery solutions in glistening leaflets containing one molecule of water of crystallisation and permanent in the air. *Eucaine* hydrochloride dissolves in about ten parts of water at room temperature.”

Vinci carried out certain physiological experiments with *eucaine* on mice, rabbits, and dogs. He found that the instillation into the eye of a rabbit or dog of a 2 to 5 per cent. solution produced complete anæsthesia in one or two minutes, which lasted on an average ten or twenty minutes. A slight hyperæmic action was thereby developed, sometimes accompanied by slight symptoms of irritation of the conjunctiva. *Eucaine* acts upon the central nervous system at first as an excitant, later on in toxic doses producing paralysis. Small doses of *eucaine* increase the reflex excitability of mice and rabbits. Doses of one-third grain per kilo body weight cause tonic and clonic convulsions, which last several seconds and recur at moderate intervals. An increase of the dose causes paralysis, under which the animal dies. Should the dose be resisted, the paralysis following upon the convulsions totally disappears. Vinci found that the pulse is gradually slowed by subcutaneous and intravenous injections of small and moderate doses to the extent of 20 to 30 beats per minute. There is no increase of blood pressure.

Berger's investigations corroborated those of Vinci upon all important points. The former demonstrated the action

of eucaine to be analogous to that of cocaïn, with the following important differences:—

1. Eucaine is less toxic.
2. It slows the pulse.
3. It does not affect the pupils.

Dr. Charteris, Professor of Materia Medica and Therapeutics at the University of Glasgow, read a paper before the Royal Society of Edinburgh, in which he described experiments corroborating those of Vinci and Berger.

Kiesel summarises the advantages of eucaine:—

1. The heart is not influenced in any way; with nervous patients I have often had the opportunity of observing that the pulse before the operation had risen to 120 or 130, whilst after injection it rapidly fell to its normal rate without irregularity, and maintained its normal character.

2. Anæsthesia is more extensive than with cocaïn, both as regards time and locality. In my experience the anæsthesia has in individual cases extended to the muscular tissues.

3. Solutions prepared with sterilised water and maintained at the room temperature remain always clear, even without the addition of carbolic or salicylic acid, and never become flocculent like those of cocaïn.

One more advantage—considered by Berger to be one of its most valuable properties—is that eucaine can be sterilised by boiling without undergoing decomposition.—(Drs. Horne and Yearsley, *Brit. Med. Jour.*, Jan. 16th, 1897).

Ichthyol (ammonium ichthyol-sulphonate) has apparently received the confidence of a very large proportion of the medical specialists, especially the dermatologists. The reports are now numerous of successful cases when used externally. The success of its internal use is not so positively stated, although many firmly believe in its great benefits. Chief among its asserted uses during the past year is in the treatment of pulmonary tuberculosis. Dr. L. Guido Scarpa, of Turin, Italy, reported his successful results to the meeting of the Royal Academy of his city in 150 cases of this affection, and he insists on the advantages which ichthyol presents over guaiacol in the treatment of tuberculosis.

He gave from 20 to 200 drops of a solution of the purest ichthyol obtainable, dissolved in two-thirds distilled water or other suitable vehicle. It was in all cases well borne.—(*Squibbs' Ephemeris*).

Dr. Le Tanneur also praises it, and gives the drug in capsules (*Jour. de Méd. de Paris*). Cohn, of Hamburg, prefers it to any other drug.

Salophen.—R. Drews (*Centralbl. f. inn. Med.*, November 23rd, 1895) speaks of the value of salophen in the nervous form of influenza. After referring to the favourable reports of the use of this drug by Claus and Hennig, the author observes that in the more recent epidemics of influenza nervous symptoms have been more prominent than in the first epidemic. These symptoms consist in headache, vertigo, prostration, and more or less sweating, together with pains in the back, neuralgias, &c. Antipyrin has proved serviceable in the respiratory and gastro-intestinal forms of the disease, but it has not been so useful in influenza with nervous symptoms. The author says that in such cases he has used salophen with good results, and that its action is prompt, sure, and more rapid than the ordinary salicylates. The maximum daily dose given was 5 g. to 6 g. In delicate subjects 0·5 g. or 0·75 g. given at first every two or three hours sufficed to arrest the neuralgic pains in two or three days. No unpleasant symptoms were ever observed. Other advantages are that salophen has no smell or taste, and is wholly without poisonous properties.—(*Brit. Med. Jour., Epit.*, February 1, 1896).

Dr. Drews also finds salophen an admirable remedy in acute rheumatism in children. In most cases the articular pains were relieved within 24 hours. The drug being insipid and insoluble, may be taken in *cachets*, pills, or tabloids.—(*Extr. du Journ. de Clin. Infant*).

Trional has received considerable attention. Scognamiglio has made a study of this substance as a hypnotic (*Rivista Clinica e Terapeutica*, No. 11, 1895). He finds that trional has very important effects in cases of melancholia, mania, and many nervous affections; he endorses the observations of Spitzer in pulmonary affections, neuralgia, and other conditions of pain, and mentions surprising results obtained in the lancinating pains of tabes. The author quotes Claus as having found trional useful in very young children, the dose being from 0·2 g. to 1·5 g. according to the age. It seems to produce sound physiological sleep about ten to fifteen minutes after the dose. According

to the writer, trional produces no bad effect on either the circulatory, respiratory, or digestive systems. In the case of patients taking the drug most careful examination failed to show the presence of this substance. From his clinical and experimental experiences the author is strongly of opinion that in trional we have a powerful and safe hypnotic when given in doses of 1 to 2 g. per diem, and that in its action it is superior to sulphonal, chloral hydrate, and morphin, and that hæmatoporphyrinuria as a result is greatly exaggerated.—(*Brit. Med. Jour., Epit.*, March 21, 1896).

Beyer (*Deut. med. Woch.*, 1896, No. 1) refers to the recorded cases of trional poisoning. Notwithstanding the frequency with which trional has been used within the last five years only six cases of poisoning have been recorded, and even then these cases will not all stand close examination. Hecker's case is, in the author's opinion, the only one of true chronic trional poisoning. Here there was no hæmatoporphyrin in the urine, and the patient recovered. The author quotes a case of cerebral hæmorrhage in which hæmatoporphyrinuria was observed, and in which no trional or sulphonal had been given. He thinks that the hæmatoporphyrin was here due to intestinal disease, but he cannot say whether this substance passed directly into the urine through a recto-vaginal fistula. Hæmatoporphyrinuria is the result of disease not only of the liver, but also of the hæmatopoietic organs. In one of his cases treated with trional on account of sleeplessness the urine became brown in colour, but here the presence of urobilin in large quantities accounted for the colour. The author maintains that trional should be given only in a single evening dose, and that a smaller quantity is efficient in women than in men. After an extensive trial in the Strassburg Clinic for Mental Diseases, the author says that trional is one of the best, if not the best, of hypnotic drugs, and that unpleasant results can easily be avoided with care. Seldom more than 2 g., and never more than 3 g., should be given.—(*Brit. Med. Journ., Epit.*, February 15, 1896).

Professor von Mering, who from his original investigations upon hypnotics is entitled to speak with authority, likewise testifies to the great value of trional. From his own experience, fortified by that of many of his medical brethren

to whom he applied for information, he concludes that trional is superior to sulphonal (dional), and holds, at present, the first rank among hypnotics. In the event of severe pain, a small dose of morphin may suitably be conjoined to the trional. The average dose of trional is 15 grains.—(*Therap. Monatsk.*, August, 1896).

ARSENIC IN SCARLATINA.

THE *Journal of the American Medical Association* takes the following from *La Semaine Médicale*:—"A Russian physician, Speransky, announces that he treated a large family of children with arsenic as a preventive measure when one was attacked with fatal scarlet fever and isolation was impossible. Although they slept with the sick one, none of the rest took the disease except the oldest, 18 years, to whom the arsenic had not been administered, and the youngest, who had been neglected and had received only occasional doses, with none at all for several days before the disease appeared. The arsenic was administered in Fowler's solution, half a drop at each of the two principal meals (8 and 9 years) with half this amount at 3 years. When the 3-year old child was taken with the disease he received half a drop three times a day, with powders of phenacetin and terpin hydrate; the 18 year old four drops with the powders. The arsenic attenuated the disease in a remarkable manner after it had developed, with no fever after the first day and the child so well that it was impossible to keep it in bed. The other cases treated outside showed the same results—a striking improvement in the course of the disease after the first day, with complete recovery in a week. The preventive doses were continued for six weeks."

STATISTICAL GLEANINGS.

ONLY 906 persons in 1,900,000 die of old age. Twelve Englishmen in every 10,000 die of gout. Of every 1,000 sailors 84 have rheumatism every year. Epilepsy is most frequent in England, 51 deaths to 10,000. The death rate of the French army is 107 to 10,000 men every year. Of every 10,000 deaths in St. Johns, N. F., 2,230 are of bronchitis. Liability to death from heart disease is greatest between 30 and 40. There have been 196 visitations of the plague in Europe since 1500.—*Jour. Am. Med. Assoc.*

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

• SECTION OF PATHOLOGY.

President—CONOLLY NORMAN, F.R.C.P.I.

Sectional Secretary, E. J. MCWRENEY, M.D.

Friday, January 16, 1897.

PROFESSOR BENNETT in the Chair.

Diseased Hearts.

DR. J. B. COLEMAN exhibited a series of pathological hearts illustrative of different affections of that organ. The specimens were taken from cases which came under his notice in hospital for the last five years.

(1.) The first was that of a girl, aged eleven years, who was admitted to Jarvis-street Hospital with chorea gravis and endocarditis. She died of exhaustion, the violence of the choreiform movements preventing her from sleeping or eating. The heart showed vegetations on the mitral valve.

(2.) The next case was that of a boy, aged eight years, who was admitted to the Children's Hospital last month suffering from mild chorea and mitral regurgitation of old standing. Whilst in hospital he developed acute endocarditis, of which he died. His heart was remarkably enlarged, particularly the left side. The mitral orifice was much dilated, admitting two fingers readily, whilst the apex was bifurcated, the apex of the left ventricle being nearly an inch below that of the right, and separated from it by a groove.

(3.) The third specimen was from a boy, four years of age, who was admitted to the Children's Hospital recently suffering from rheumatic pericarditis. Both visceral and parietal layers of the pericardium were covered with soft, shaggy, easily-detached lymph, and the muscular tissue of the heart was soft.

(4.) The next specimen was taken from a girl, aged nineteen, who died in the Whitworth Hospital. She had been under Dr. Coleman's care from time to time for the past two years, presenting well-marked signs of mitral stenosis. The heart showed extreme stenosis of the mitral orifice, which would not admit the edge of the finger-nail. The left auricle was much hypertrophied, left ventricle normal size, right ventricle hypertrophied, right auricle dilated. Patient had suffered from paroxysms of dyspnoea and hæmoptysis, and hæmorrhagic infarcts were found in the lungs.

(5.) The heart of a man, aged fifty-six, showed puckering and calcification of the aortic valves.

(6.) The next specimen was from a man, aged fifty-five, who was brought to hospital dead. *Post mortem* the pericardium was found distended with blood, which had come from the rupture of a small aneurysmal bulging of the upper part of the ascending aorta.

(7.) A man, aged sixty, died suddenly. His heart showed a fusiform aneurysm of aorta, and chronic sclerotic changes in the aortic valves.

(8.) The specimen, taken from a man, aged sixty-three, who died suddenly, showed the whole inner surface of the aorta lined with calcareous plates; the aortic valves and coronary arteries were also extensively calcified.

(9.) The next heart was from a man, aged sixty-six, who was dead on admission to hospital. The specimen showed a rupture near the apex of the left ventricle. On the pericardial surface was seen a rent about half an inch in length, and on the corresponding endocardial surface there was ulcerative destruction of the endocardium and muscular tissue. The pericardium was found distended with blood.

(10.) The last specimen was taken from a labourer, aged twenty-eight, who, whilst engaged in some severe work on the quays, suddenly dropped dead. The men who brought him to hospital stated that previously he had made no complaint. *Post mortem* the pericardium was found to be distended with blood, and the cause of death was a ruptured aneurysm of the left ventricle. The heart shows a sacculated aneurysm, somewhat bigger than a walnut, situated near the apex of the left ventricle. The external wall of the aneurysm was composed of the pouched-out pericardium; the

cavity invaded the thickened myocardium, and a small opening from the inner side of the ventricle near the apex led into the sac of the aneurysm.

THE CHAIRMAN remarked that these cases of spontaneous rupture of the heart accorded with the opinion expressed by Dr. Stokes in former days, that when spontaneous rupture of the heart occurred it took place at the apex of the left ventricle.

DR. FRASER said two points deserving of elucidation arose in these last-mentioned cases. One was as to the cause of the aneurysmal dilatation—why it should occur in the strong muscular covering of the heart. Was it the result of ulceration, or of degeneration of the tissue, or of an abscess? It had been noticed that when blood escaped slowly from small aneurysmal rents, the action of the heart continued, the result being an accumulation of blood and slowly-occurring death of the subject. Professor Haughton had given an account of a case of that kind of slow death resulting from blood coagulated round the heart. As to the bifurcated heart, it must be looked on as a case of congenital malformation.

DR. STOKES asked whether any great dilatation of the heart, without valvular disease, was observed in the cases of the children who died of chorea. Dilatation of the heart pure and simple was one of the commonest affections of children. It was said that chorea was created by rheumatic poison; and there was no doubt that the heart did dilate enormously in such diseases in young children. He had seen hearts of young children in which he would have pronounced the mitral valve to be diseased, but more experienced men had told him that the appearances were healthy.

DR. McWENNEY said he had examined a large number of hearts, but had never seen anything like the heart with the double apex which had been exhibited. Occasionally a slight depression between the right and the left sides of the apex was met with; but a left apex fully an inch below one on the right side, with a deep groove running between them, was a matter of considerable rarity.

THE CHAIRMAN said he had never seen a bifurcated heart like the one exhibited.

MR. F. A. NIXON said a good many of these pathological conditions of the heart were due to some form of strain happening to men who pursued laborious occupations, and to soldiers and sailors. The late Sir William Aitkin put forward the theory that such strains or injuries resulted in some form of inflammation. Patients who were brought dead to his hospital were nearly always men who had been employed in lifting heavy weights, such as corn and

quay porters. The specimen of cardiac aneurysm now shown was a rarity.

DR. COLEMAN (in reply) said that in cases of chorea in children he had noticed dilatation of the heart, but not very commonly. There was no doubt as to there being vegetation of the valves in the hearts he had shown as exhibiting that feature, although it was more distinctly visible when the specimens were fresh, for there was then obvious inflammation of the valves.

Achorion Schönleinii.

THE SECRETARY (Dr. McWeeney) showed pure cultivations on glycerine agar and ordinary agar of *achorion Schönleinii* grown from a favus scutulum given him by Dr. Coleman. A fragment of the scutulum was crushed in a drop of sterile broth between sterile glass slips, and a trace of the fluid rubbed into the nutrient surfaces. Abundant and pure development occurred at 37° C.

Pyogenic Organisms.

THE SECRETARY also showed a series of these organisms which he had recently isolated from the human subject. The first was *Streptococcus pyogenes* var. *longus* from a severe whitlow on his own finger (*post mortem* infection). The second was *Staphylococcus aureus* from a metastatic miliary abscess of the kidney in a case of septicæmia and infective endocarditis that had terminated fatally within two days of admission to hospital. The patient was a powerfully-built man, aged twenty-five, a cattle drover, of alcoholic habits, from Dr. Boyd's ward in the Mater Hospital. The third organism was *B. coli communis* from the peritoneal exudation of a case of general purulent peritonitis from perforation of the vermiform appendix in a boy aged ten. A remarkable feature was the discharge of 4 ounces of turbid, yellow, foul-smelling fluid from the subject's left ear when on the *post-mortem* table. This fluid contained *B. coli* also in pure cultivation [specimen shown]. Intracranially nothing was found to account for the accumulation. Lastly, he showed *B. pyocyaneus* obtained from the urine of a case resembling tuberculous pyelitis, but shown to be due to infection of the kidney with the organism mentioned. This was a rare occurrence. The race isolated was intensely chromo- and pathogenic.

THE CHAIRMAN remarked that in the case of the boy who died from peritonitis, and out of whose ear fluid came, the contents of the stomach and intestines might have got up through the Eustachian tube.

DR. W. FRAZER remarked that a long time ago, when bacteriology

was in a very different stage from that which it had reached now, he made an attempt to grow an achorion between two layers of glass; and it succeeded, though not to the extent obtained by Dr. McWeeney's mode of culture. His specimen was obtained from a lady who got a single scutulum in the inside of the thigh. At first it was very difficult to say where the infection came from; but it turned out that a child of the woman who washed clothes for the lady had favus, and the conclusion was that the patient's thigh had got scraped in some way, and that the little group of crusts formed at the spot. He was quite satisfied at the time as to the nature of the micro-organism. The other cultivations exhibited by Dr. McWeeney opened an interesting field of observation; but he trusted that for his own sake, as well as that of the Society, he would refrain in future from utilising his own body for scientific purposes.

Trichinosis.

DR. ALFRED R. PARSONS made a communication on trichinosis, which was illustrated by specimens of encapsuled trichinæ removed from the body of a patient between sixty and seventy years of age, who was admitted to the City of Dublin Hospital last September. He was a labourer by occupation, and stated that he never had any serious illness. For a few years past he has had a cough, but was not obliged to give up his work till six or seven weeks before admission. Physical examination revealed the presence of extensive tubercular disease of the right lung. The case terminated fatally in a little over two months after his admission, and the *post-mortem* examination disclosed a large cavity in the apex of the right lung. Scattered through the muscles, especially of the neck, extremities, and diaphragm, were numerous white spots, most abundant towards the tendinous insertion of the muscles. A small portion of one of the muscles was spread out in a thin layer on a slide, and in an area about half an inch square at least twenty-five capsules could be counted. None could be found in the heart muscle. On treating the capsules with dilute hydrochloric acid the embryonic trichinæ were easily seen. Experimental investigation proved that the trichinæ were dead, and probably the attack occurred so many years ago that it had passed out of the recollection of the patient. It would have been impossible for such an invasion of the muscles as this case disclosed to have occurred without producing symptoms. Within the last five years muscle trichinæ have been recognised in two other cases—one in the anatomical department of Trinity College, and the other in the anatomical department of the Royal College of Surgeons.

THE CHAIRMAN said the honoured name of Dr. Robert Harrison, of that city, ought to come into the literature of this subject, for he reported the figure of *Trichina spiralis* synchronously with, if not previously to, Dr. Owen.

DR. W. FRAZER said he believed there were specimens of Dr. Harrison's case still in the Museum. Another honoured name—that of Dr. Robert M'Donnell—should also come into the history of the subject, for he had a case of trichina, and fed white rats with the infected tissue; and he (Dr. Frazer) got specimens from them. He also had three cases himself, which he believed to be cases of trichina.

DR. FINNY said that about the year 1867, when he was Demonstrator in Trinity College, he came on a portion of a diaphragm which was studded over with these white spots, and on examining them, he failed to find anything but calcareous-covered trichinæ. The patient was an old woman, and it had not appeared that she suffered in any way from them. How long these organisms remained in the calcareous state after they accomplished their final journey into the muscular tissues was still an unknown matter. There were many guesses as to how they made their way from the intestinal canal into the muscles of the abdomen and the diaphragm, where they were so frequently found. One path might be through the intestinal walls into the peritoneal cavity, and from the surface of the stomach upwards into the diaphragm. If the path were through the blood vessels—which Dr. Parsons thought was possible—they would be found in the more distant muscles and also in the heart more commonly than they were.

MR. NIXON said he met with this disease on two occasions in the dissecting-room many years ago. In one of the cases, enteric fever was diagnosed, and in the other rheumatism. In each case there was elevation of temperature; and in one there was marked distension of the abdomen, and in the other great pains in the muscles. He thought the path by which trichinæ travelled was not constant, and that sometimes they went by the peritoneum into the diaphragm, whilst in other cases they took the line of the lymphatic vessels. He thought this disease existed more frequently than they were aware of, and that it was extremely difficult to diagnose. In both of the cases he had mentioned the diagnoses at first made were wrong.

DR. KNOTT said he supposed the reason of that was that in one case the irritation produced by the trichinæ in the earlier stage of their progress was mistaken for enteric fever, whilst in the other the affection of the muscles in the later stage was taken for rheumatism.

DR. FRAZER said this disease appeared to have two courses—one a rapid one, and the other slow and chronic.

DR. DEMPSEY asked for an explanation of the œdema of the eyelids that was noticed in Dr. Parson's patient.

DR. PARSONS (in reply) said that in neither the English nor German literature of the subject did the names of Dr. Harrison or Dr. Mc'Donnell occur. Two years ago a case of the disease was met with in Trinity College dissecting-room, and four or five years ago another case was met with in the dissecting-room of the College of Surgeons. How long these organisms retained their vitality after they had become encapsuled had not been determined. It was certain, however, that they did retain vitality for a considerable time after they were encapsuled, and that dipping them in alcohol did not destroy them. He agreed with Dr. Knott that in the early stages the symptoms produced by them might easily be mistaken for enteric fever, for there was pyrexia for five or six weeks, but later on there was a change in the symptoms, and the severe pains in the muscles indicated the lodgment of the embryos in them and the consequent irritation. As to Dr. Dempsey's question, the œdema was not limited to the upper extremities, though it commonly occurred in the eyelids. It also occurred, in some cases in the lower extremities. It was difficult to understand why œdema should occur in the eyelids. The only explanation he had heard suggested was that there was some plugging of the lymphatics or capillaries, but he was not satisfied with it.

The Section then adjourned.

SECTION OF SURGERY.

President—WILLIAM THOMSON, President of the Royal College of Surgeons.

Sectional Secretary—JOHN LENTAIGNE, F.R.C.S.I.

Friday, January 22, 1897.

PROFESSOR BENNETT in the Chair.

Excision of the Tongue.

MR. WHEELER communicated a paper on this subject. [It will be found at page 281.]

The CHAIRMAN remarked that Mr. Wheeler had directed special attention to the association of malignant disease with tertiary syphilis. The most important feature of his paper was that it exhibited a more hopeful view of the treatment of cancer of the

tongue than was usually maintained. Most of them had had sad experience of that disease, and very few had been able to record cases in which, after fifteen years, there had been no return of the disease.

The VICE-PRESIDENT, R.C.S. (Mr. Swan), said he thought that Mr. Wheeler was to be signally congratulated on the fact that he had patients alive 15 years after operation for this disease. But most surgeons would agree with him (Mr. Swan) that cases were occasionally seen which presented all the clinical aspects of malignant disease of the tongue—viz., the ragged sore with a hard base, the emaciated appearance of the patient and the enlargement of the neighbouring glands, the age of the patient also being that at which cancer commonly occurred—and which were yet not cancer but only simulated it, and got well under a course of mercury. He was not a bacteriologist, but he must say he had no faith at all in the bacteriological evidence that was derived from the scrapings of any sore on the human body. He perfectly agreed with Mr. Wheeler as to the inefficacy of tying the lingual artery, so far as its ligation was supposed to be demanded on account of hæmorrhage in the removal of the tongue. Provided they had an easy access to the mouth they need never fear hæmorrhage in that operation; but if, in the course of removing the cervical glands—which Mr. Wheeler apparently did not approve, although many surgeons did—having regard to the intimate connection between the tongue and the sub-maxillary glands, if he (Mr. Swan) should, in the course of an operation, meet the lingual artery he would ligate it, because that would render inspection of the tongue a little more easy afterwards.

SIR THORNLEY STOKER said he did not think that the minute anatomy of the organ had any essential bearing on the rude facts they had to deal with in connection with the surgery of this portion of the body. In his (Sir Thornley Stoker's) practice only one question in connection with the causation of cancer of the tongue interested him, and that was its connection with syphilis. He agreed with him that syphilis was unquestionably a predisposing cause of cancer; and he also agreed with the practical remarks of Mr. Swan as to the difficulty of diagnosing many cases of cancer of the organ in question from syphilitic affections. And what was very confusing was, that one of these conditions sometimes ran into the other. Most of them had seen instances of what had commenced as syphilis degenerating into carcinoma. Mr. Wheeler spoke of dividing the gustatory nerve as a means of relieving pain and salivation in cancer of the tongue. He had performed the operation on a good many

occasions, and he had not found any marked benefit to result from that proceeding. The gustatory nerve was seldom divided at a time when the nerve was easy of exposure and when the operation was an insignificant one; but when the cancer had infiltrated the floor of the mouth and produced aggravated pains in the ear the division of the gustatory nerve became rather a serious operation. He entirely dissented from the practice of transfixing the base of the tongue because he believed it to be quite unnecessary. There was a reason for transfixing the base of the tongue in the days when the *écraseur* was used in the operation, and a needle was put in to prevent it from sliding. But no one would, he trusted, use an *écraseur* in this operation now. As to the thermo-cautery scissors, he thought it a totally unnecessary and objectionable instrument. In cases which were proper ones for the performance of the operation, perfect command over the vessels was obtained by performing Whitehead's operation and using a clipped forceps if an artery began to bleed. He had never found it necessary to divide the cheek; and dividing the lower jaw and opening the floor of the mouth were, in his opinion, bad and unnecessary practices. Complete access could be got to the base of the tongue—in spite even of the small mouths that Mr. Wheeler seemed to have found so common—through the oral aperture by Whitehead's operation, and as far back as it was safe for the surgeon to carry that operation. He (Sir T. Stoker) had of late years done no operation except Whitehead's, and he believed it to be the best for removing the tongue in a case of cancer. Other procedures might in certain cases be necessary, but rarely. In the last case he operated on he found it necessary to go so far back that he had to remove the anterior artery of the palate and a portion of the tonsil on one side, and he found no difficulty in doing it by Whitehead's operation. The tongue could, by a pair of forceps—and not by the brutal old practice of a ligature—be drawn so far out of the mouth that the operation was practically an extra-buccal one; and every artery that sprang—there were only four or five—could be secured by a clipped forceps and tied. He believed that the practice of operating in hopeless cases of cancer of the tongue was a bad one. He had never, in his long experience, seen a case of a patient dying from suffocation, or from starvation, that could not have been relieved by artificial means. He was in complete accord with Mr. Wheeler, however, as to the deligation of the lingual arteries. Mr. Swan hit the nail on the head when he said that those arteries might be deligated when they came into view in such critical operations as the removal of the jaw, or of the sub-maxillary glands;

but in ordinary cases he (Sir T. Stoker) did not believe deligation of the lingual arteries to be either necessary or advisable.

MR. TOBIN said the point upon which he most desired information was the connection between the lymphatic system and the tongue—that is to say, the diffusion of the disease through the lymphatics. If they had very extensive observations as to what course the disease usually followed, what glands became engaged and what did not, they would be in a better position to undertake more radical operations than they were at present. At present their system of dealing with this disease in the tongue was slipshod compared with what they did in dealing with the disease in the breast. Not very long ago they treated the disease in the breast very much as they at present treated it in the tongue. They removed the diseased breast, and then they attacked the axilla and took it for granted that there were no enlarged glands present; but if there were they removed them and so left the case. But as surgery advanced there was a levelling up to a degree of excellence that had not been attained before. At present the practice in operations on the breast was to remove the lymphatic glands in their continuity with the disease in the breast. They did not make one incision for each, but removed them, as far as possible, in their continuity. Again, they never took it for granted that glands were not enlarged because enlargement was not evidenced to the touch. There were few of them who had opened the axilla and not found enlarged glands in cases of undoubted carcinoma of the breast. As to ligaturing the lingual artery, he had never seen an operation undertaken for ligaturing it in which enlarged glands were not found. On four or five occasions on which he ligatured the artery he found them himself, and he had invariably seen them when others operated. In those cases it was not possible to detect the enlargement by touch. He did not therefore think that mere examination by the fingers was sufficient for the purpose. At present, when scrofulous glands were removed from the neck—in almost every crevice of which glands existed—a string of glands connected with each other was generally removed; and in cancer of the tongue he should like to see an operation of such magnitude undertaken that not only would the diseased tongue be removed—not through the mouth, but through an incision underneath the jaw so that the floor of the mouth and all the structures in their continuity could be reached as far as possible—but also the glands connected with it.

MR. M'ARDLE congratulated Mr. Wheeler on the cosmopolitan character of his paper. But very little information had been given

as to what became of the cases in which the disease returned. It had been his experience that where an extensive cancer of the tongue had been removed a fairly early return of the disease took place; and some guide was wanted as to the possibilities of the return. Where the disease had not returned for 15 years it would be very desirable to have a microscopic section which would indicate the character of the disease at the outset. His experience, in cases in which the diagnosis had been thoroughly established, was that the return took place very much earlier; and if cases were to be of any service they must be accurately watched to the finish. He dissented altogether from the views which had been put forward as to the applicability of this operation in all cases. He congratulated Mr. Wheeler on his conversion to Listerism. The phrase "removal of the tongue" was hardly sufficient for nineteenth-century surgery. It was not sufficiently definite. Removals of the whole tongue, of a patch at the side of it, and of the front of it should be distinguished. If statistics were to be of any use they should be founded on something definite. A cancer engaging the base, on one side of the tongue, bore little or no resemblance to a cancer on the tip of it; and these degrees of affection should not be all classified in a heap. Mr. Wheeler's paper told them how many operations he had carried out; but in his (Mr. M'Ardle's) opinion it told them nothing more of surgical importance. Mr. Wheeler objected to ligaturing the lingual artery, because the healing of the wound on the outside delayed so long the removal of the tongue from within; yet he told them that he left the sub-lingual gland until the wound through which the tongue was removed was healed. Was not that a contradiction? If there was spreading of the disease it must be from the glandular parts and not from the tongue; and the wound made for the removal of the tongue took much longer to heal than the other. Mr. Wheeler said that in one case the patient died from "asthenia." He would like an explanation of what was meant by that expression. He (Mr. M'Ardle) was adverse to the practice of charring the mouth by cautery. The operator saw nothing of what he was doing; he never knew whether he had got beyond the limits of the disease or not; and though the practice in question was the readiest way, it was not the most perfect. If the disease had engaged the base of the tongue, the lingual artery should be secured and a sub-maxillary incision should be made outside the mouth; for once the base of the tongue had been infiltrated with cancer, the sub-lingual glands must be infected, and it would be impossible to remove them without an external incision. He had never seen the slightest ill

effect ensue from the removal of the tongue from outside, and within the last ten years he had carried out that form of operation a considerable number of times, making an incision down from the angle of the jaw and coming up again. He never did Kocher's operation except once. When performing the operation through the mouth they should see that every shred of the cancer was removed.

MR. LENTAIGNE said he heartily endorsed every word that had been said by Mr. Tobin. In operating for cancer of the tongue they ought always make themselves certain as to whether there were diseased glands or not, and they could effect a careful examination on that point only by making an external incision. Up to two or three years ago they firmly believed in Whitehead's operation; but they did not get to the root of the disease by it, and if there were an extension of the disease to the glands, Whitehead's operation was not sufficient. If he were tempted by a very small cancer at the end of the tongue to perform Whitehead's operation, he would go on to a second operation and search for the glands, especially under the upper portion of the sterno-mastoid, where, in his experience, recurrence most often took place; and if he had any doubt on the subject, he would not hesitate to make incisions on both sides. The statistics of mortality in operations for cancer of the tongue were very high, and some surgeons said that there was no use in operating with the hope of ultimate cure, as the disease would inevitably recur. But Kocher and others had given a considerable number of cases in which the existence of cancer was undoubtedly proved by microscopic observation, and in which the excision of the glands was performed, and these cases had been followed for many years, and cures or prolonged relief resulted in them. He agreed with Mr. Tobin as to the kind of work they should aim at, and he believed that in a little time they would look on cancer of the tongue as they did when it occurred in the breast or in any other part of the human body, and would feel bound to look for the disease in any place where it was likely to have made a fresh extension. He did not think their knowledge was exact enough as to where the new start was likely to take place, but in the majority of the cases of recurrence in his own and in other persons' practice, the recurrence took place in the glands just under the upper portion of the sterno-mastoid. There, he thought, they were bound to make search. He agreed with Mr. Wheeler as to the importance of having the mouth clean before the operation. He thought most operating surgeons did not take sufficient care on that point. The quantity of dirt in the teeth of ordinary hospital patients was considerable, and therefore the teeth should be well

brushed for days beforehand and washed with an antiseptic. A very prolonged course of cleaning was, in his mind, advisable. He agreed that cautery of any kind was objectionable. Clean incisions were far preferable, and he should not think of cautery unless there was some special reason calling for it. He had frequently used adhesive gauze after operations on the tongue, and had found it to be of great use. It protected the cut surface from food, &c., and the healing proceeded in a most satisfactory way under it. He considered that splitting open the cheek was a desirable procedure in a few cases, but any extra buccal operation that did not go down to where there were glands likely to be infected was insufficient and not likely to be satisfactory.

SIR THORNLEY STOKER said, in explanation, that when speaking of Whitehead's operation he never meant to exclude the practice of external incisions. Although he used Whitehead's operation he could not recollect doing excision of the tongue without making extensive external incisions as well.

MR. DOYLE said that the man who popularised the operation for the thorough removal of cancer of the tongue and all the glands in the sub-maxillary region was Mr. Croly. As to the diagnosis of this disease, of which he (Mr. Doyle) as well as others has had sad experience, it was by no means easy. A late associate of that Society, who had a small white spot near the margin of the tongue, was seen when it first appeared by some specialists of London and other cities, who said there was nothing in it. Three years afterwards it was removed by an operation under cocaine. The removed portion was submitted for microscopic observation to another specialist, who could not tell anything about it. Three months afterwards the disease recurred in the sub-maxillary glands and terminated fatally.

MR. TAYLOR said diagnosis of cancer of the tongue was in a great many cases difficult; but he did not see why a small portion of the affected part could not be removed and microscopically examined. The results of operation for cancer of the tongue could not be very satisfactory so long as they were without microscopic aid. He considered that the nature of the operation should vary according to the site of the cancer. If it was on the anterior part of the tongue, the operation best suited for that was one from the floor of the mouth, because the glands and cellular tissue could in that way be most easily removed, the diseased part of the tongue taken away, the lingual artery tied, and good drainage effected. In a case which he had, involving the posterior part of the tongue and part of the tonsil on the right side, he operated from the neck

by an incision from the mastoid process. He removed several glands and part of the jugular vein, and a thing which greatly contributed to the ease of the operation was that he cut the posterior belly of the digastric.

MR. MYLES said that quite recently, with the assistance of Sir Thornley Stoker, he operated on a lady for a supposed cancerous tumour of the breast, and as the question of diagnosis was very doubtful, he called in a younger colleague, Mr. Greer, who was an experienced microscopist. He made a microscopic examination of part of the tumour, but the result was nil—it was perfectly futile. First, sections prepared under such circumstances were entirely unreliable; and secondly, it was extremely difficult to prepare them. It was difficult to cut a section from a fresh tissue. He therefore contended that microscopic examinations of scrapings, or of fresh sections of the tongue, were absolutely unreliable. Professor Hamilton, of Aberdeen, brought under the notice of the profession the changes that occurred in the tongues of old people, and produced microscopic sections of the tongues of persons over fifty-five years of age, and every one of these presented the identical appearances that were usually associated with epithelioma. He placed side by side with them sections of clinical epithelioma, and the most expert pathologists were unable to distinguish between the two. As to the cases that recovered without operation, when he (Mr. Myles) was house surgeon of Steevens' Hospital, a case came there to be operated on for cancer of the tongue, and everybody, except Mr. Edward Hamilton, diagnosticated it to be epithelioma. The patient was a woman of sixty-five or sixty-six years of age, the mother of 18 children and the grandmother of 24. Mr. Hamilton suggested a mild course of mercury, which was adopted, and she went home perfectly well. He was firmly convinced that in a large percentage of cases it was impossible to distinguish the syphilitic gumma from true epithelioma. He joined issue with those and others who would limit their means of information as to the existence of glandular enlargement to digital explanation. Mr. Wheeler stated that in certain cases, some time after the operation for the excision of the tongue had been completed, he made an incision in the sub-maxillary region and removed the glands. That was not the thorough eradication contemplated by Mr. Tobin and Mr. Lentaigue. A person, suppose, had a large cancer of the tongue. There was no obvious or visible connection between the cancer and the enlarged glands under the sterno-mastoid muscle. The tongue was removed, and in a fortnight afterwards the glands. But what became of the intervening point of connection? Was it to be left there? Any operation that

left the chain of connection between the cancer and the glands was incomplete. On one other point he was entirely at one with Mr. Wheeler's hostile critics, and that was as to the use of cautery. As a means of preventing hæmorrhage it was an antiquated procedure. At the same time he joined issue with those who said that hæmorrhage of the tongue was never sufficient to cause alarm or difficulty. In his own practice, and in that of others, he had again and again seen cases in which there was very considerable difficulty in controlling it. He would go further and say that in an operation for the removal of one half of a tongue the preliminary ligaturing of one lingual artery was absolutely useless so far as controlling hæmorrhage was concerned. In dividing the middle of the tongue he had himself met with very free hæmorrhage from the cut surface.

MR. WHEELER (in reply) said he never found it necessary on account of danger of hæmorrhage to tie the lingual artery beforehand, and if there was hæmorrhage it could be controlled by passing the finger round the base of the tongue. There was no difficulty at all in controlling hæmorrhage. As to thermo-cautery, he (Mr. Wheeler) was not wedded to it; but he used it for two reasons—one on account of secondary hæmorrhage, and the other because it did not char. It had the advantage of preventing oozing from the surface, but it would be imperfect if the lingual artery were not ligatured. In the electric cautery, secondary hæmorrhage had not been known, but he had used that only once. As to "proper" cases for operation, he considered that where there was a foul and offensive mass in the patient's mouth the removal of it would relieve and comfort him, and perhaps prolong his life, although there might be no hope of curing him. In many of the cases he had brought forward the disease must have returned—it could not possibly have been otherwise. He preferred to remove the tongue first, and the glands afterwards, for this reason, that after the removal of the tongue the sub-maxillary glands, if they were enlarged, went down a little. There was a band of tissue—whether connective or not was a matter of dispute—going from the sub-maxillary glands down to the lymphatic glands, and guided by that tissue they could find the glands and lift them out more perfectly after the subsidence of the others. It was not so easy with the sub-maxillary glands in a state of tension, or perhaps inflammation, to remove the entire of the glands perfectly, but when they waited until after the subsidence everything could be removed perfectly, and they would not have the disease recurring in the site of the sub-maxillary space. In cases

of what was called non-penetrating epithelioma, they would hardly have enlarged glands, and in such cases he had had the best results. He had recorded the history of his cases as fully as he could. There were only 10 that he could account for. In 29 he knew that the disease returned. As to 22, he had no direct knowledge of the disease not having returned, but he heard indirectly that 5 of them were alive. He did not quite understand what was meant by his "conversion to Listerism." In 1884 he wrote a paper in which he stated that cleanliness, rest, and drainage were necessary in operation, and he advocated the same cleanliness in operations on the tongue. As to the case of the

- man with reference to whose case he used the term "asthenia," he lost hardly any blood, he had an intermitting heart, he got weaker after the operation, and there was no reason for believing that he had thrombosis. As to the operation to be undertaken, it depended on whether they had to remove the tongue, or the tonsils also, or part of the palate; and in the latter cases he had taken out a portion of the inferior maxillary. He wished it to be clearly understood that where the glands were enlarged he not only took out the sub-maxillary glands, but followed down the connective tissue and eliminated the lymphatics. He adopted no half measures in such cases, but in some of his cases the glands were not enlarged at all.

The Section then adjourned.

HORSE-MEAT IN PARIS.

THERE are at least two hundred horse butcher shops in Paris. The first one dates from July 1, 1866, since when the consumption has grown continuously. In 1872, 5,084 horses were eaten in Paris; in 1878, 10,000; in 1894, 21,227; in 1895, more than 30,000.—*Jour. Am. Med. Assoc.*

HOLLOWAY SANATORIUM.

THIS hospital contained 350 patients on January 1st, 1895, and 328 on the last day of the year. There were 122 admissions, 72 recoveries, 36 discharged relieved, and 13 deaths. The recoveries stand at the high percentage of 64·86 on the admissions, and the deaths are only 3·81 on the average number resident. Drink figures as the cause of insanity in 11 of the admissions, hereditary influence in 18, domestic trouble in 6, and religion in 12. Seven of the deaths were owing to cerebral diseases and 1 to consumption.—*The Hospital.*

SANITARY AND METEOROLOGICAL NOTES.

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VITAL STATISTICS

For four Weeks ending Saturday, February 27, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000:—

Towns	Weeks ending				Towns	Weeks ending			
	Feb. 6	Feb. 13	Feb. 20	Feb. 27		Feb. 6	Feb. 13	Feb. 20	Feb. 27
Armagh -	85.1	49.1	21.0	14.0	Lisburn -	21.3	17.0	51.1	17.0
Ballymena	16.9	22.5	22.5	33.8	Londonderry	42.4	36.1	40.8	40.8
Belfast -	36.5	39.1	30.6	28.3	Lurgan -	36.5	45.6	45.6	18.7
Carrickfergus	29.2	17.5	17.5	5.8	Newry -	48.3	40.2	16.1	20.1
Clonmel -	14.6	24.4	39.0	9.8	Newtownards	17.0	22.7	51.0	51.0
Cork -	26.3	37.4	34.6	30.5	Portadown -	12.4	30.9	30.4	49.5
Drogheda -	30.4	7.6	30.4	26.6	Queenstown	34.4	11.5	28.0	0.0
Dublin -	42.8	40.4	42.2	37.0	Sligo -	30.5	15.2	15.2	35.5
Dundalk -	41.9	8.4	25.1	20.9	Tralee -	33.6	11.2	44.8	22.4
Galway -	30.2	22.7	18.9	22.7	Waterford -	17.9	31.8	25.9	37.8
Kilkenny -	47.2	18.9	14.2	37.8	Wexford -	36.1	49.7	31.6	31.6
Limerick -	28.1	25.3	22.5	28.1					

In the week ending Saturday, February 6, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 20.6), was equal to an average annual death-rate of 20.8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 26.6 per 1,000. In Glasgow the rate was 27.2. In Edinburgh it was 24.9.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of

Ireland was 36·3 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·3 per 1,000, the rates varying from 0·0 in thirteen of the districts to 11·7 in Carrickfergus—the 5 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 197 deaths from all causes registered in Belfast are 5 from measles, 9 from whooping-cough, 1 from simple continued fever, 8 from enteric fever, and 1 from diarrhoea. The 38 deaths in Cork comprise 2 from whooping-cough.

In the Dublin Registration District the registered births amounted to 262—140 boys and 122 girls; and the registered deaths to 296—145 males and 151 females.

The deaths, which are 89 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 44·1 in every 1,000 of the population. Omitting the deaths (numbering 9) of persons admitted into public institutions from localities outside the district, the rate was 42·8 per 1,000. During the first five weeks of the current year the death-rate averaged 40·1, and was 6·2 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 56, being 3 under the number for the preceding week, but 34 in excess of the average for the fifth week of the last ten years. The 56 deaths comprise 18 from measles, 1 from German measles, 4 from scarlet fever (scarlatina), 24 from whooping-cough, 1 from diphtheria, 2 from enteric fever, and 3 from diarrhoea.

The number of cases of measles admitted to hospital was 95, being 9 under the admissions for the preceding week: 108 patients were discharged, 8 died, and 235 remained under treatment on Saturday, being 21 under the number in hospital at the close of the previous week.

Thirty-three cases of scarlatina were admitted to hospital, being an increase of 14 as compared with the admissions in the preceding week: 22 cases were discharged and 131 remained under treatment on Saturday last, being 11 over the number in hospital at the close of the preceding week. This number is exclusive of 20 patients in the Baneavin Convalescent Home, Glasnevin.

The number of cases of enteric fever admitted to hospital was 7, against 13 in the preceding week. Four enteric fever patients were discharged and 39 remained under treatment on Saturday, being 3 over the number in hospital on that day week.

Nine cases of typhus were admitted to hospital, and 17 remained under treatment on Saturday, being 8 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered, was 75, being 11 below the number for the preceding week, but 22 above the average for the fifth week of the last ten years. The 75 deaths comprise 54 from bronchitis and 14 from pneumonia.

In the week ending Saturday, February 13, the mortality in thirty-three large English towns, including London (in which the rate was 18·6), was equal to an average annual death-rate of 19·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 28·8 per 1,000. In Glasgow the rate was 33·3, and in Edinburgh it was 24·7.

The average annual death-rate in the twenty-three principal town districts of Ireland was 35·9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·0 per 1,000, the rates varying from 0·0 in fifteen of the districts to 14·0 in Armagh—the 7 deaths from all causes registered in that district comprising 2 from measles. Among the 211 deaths from all causes registered in Belfast are 9 from measles, 4 from scarlatina, 6 from whooping-cough, 1 from diphtheria, and 7 from enteric fever. The 54 deaths in Cork comprise 3 from measles and 1 from whooping-cough. The 10 deaths in Newry comprise 1 from whooping-cough and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 217—122 boys and 95 girls; and the registered deaths to 276—151 males and 125 females.

The deaths, which are 82 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 41·2 in every 1,000 of the population. Omitting the deaths (numbering 5) of persons admitted into public institutions from localities outside the district, the rate was 40·4 per 1,000. During the first six weeks of the current year the death-rate averaged 40·3, and was 7·3 over the mean rate in the corresponding period of the ten years 1887–1896.

The deaths from zymotic diseases amounted to 71, being 15 over the number for the preceding week, and 52 in excess of the average for the sixth week of the last ten years. They comprise one from small-pox—the only death from that disease registered since the

week ended May 23, 1896—26 from measles (being 8 over the number of deaths from that cause in the preceding week), 2 from scarlet fever, 2 from typhus, 6 from influenza and its complications, 25 from whooping-cough (against 24 in the previous week), 1 from enteric fever, and 1 from diarrhœa. Fifty-seven of the 71 deaths from zymotic diseases occurred among children under 5 years of age.

The hospital admissions included 2 cases of small-pox. These are the only cases of the disease admitted to hospital since the week ended June 6, 1896.

There were 112 cases of measles admitted to hospital, against 95 in the preceding week, and 104 in the week ended January 30. Ninety-eight measles patients were discharged, 7 died, and 242 remained under treatment on Saturday, being 7 over the number in hospital at the close of the preceding week.

Forty-two cases of scarlatina were admitted to hospital, against 33 in the preceding week, and 19 in that ended January 30. Twenty-six patients were discharged, 2 died, and 145 remained under treatment on Saturday, being 14 over the number in hospital on that day week. There were, in addition, 21 convalescents under treatment at Beneavin, Glasnevin.

Seven cases of enteric fever were admitted to hospital: 6 patients were discharged, and 40 remained under treatment on Saturday, being 1 over the number in hospital at the close of the preceding week.

The number of cases of typhus admitted to hospital was 7, being a decline of 2 as compared with the admissions in the preceding week. Two patients died, and 22 remained under treatment on Saturday, being 5 over the number in hospital on that day week.

Deaths from diseases of the respiratory system, which had fallen from 86 for the week ended January 30 to 75 for the following week, rose to 80, or 31 over the average for the corresponding week of the last ten years. The 80 deaths comprise 53 from bronchitis and 23 from pneumonia.

In the week ending Saturday, February 20, the mortality in thirty-three large English towns, including London (in which the rate was 17·8), was equal to an average annual death-rate of 18·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25·5 per 1,000. In Glasgow the rate was 29·4, and in Edinburgh it was 19·9.

The average annual death-rate represented by the deaths regis-

tered in the twenty-three principal town districts of Ireland was 35·1 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·1 per 1,000, the rates varying from 0·0 in fourteen of the districts to 10·6 in the Dublin Registration District. Among the 165 deaths from all causes registered in Belfast are 1 from measles, 1 from typhus, 3 from whooping-cough, 4 from enteric fever, and 3 from diarrhoea. The 50 deaths in Cork comprise 4 from measles and 2 from whooping-cough. The 26 deaths in Londonderry comprise 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 220—115 boys and 105 girls; and the registered deaths to 291—144 males and 147 females.

The deaths, which are 80 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 43·4 in every 1,000 of the population. Omitting the deaths (numbering 8) of persons admitted into public institutions from localities outside the district, the rate was 42·2 per 1,000. During the first seven weeks of the current year the death-rate averaged 40·7, and was 7·9 over the mean rate in the corresponding period of the ten years 1887-1896.

Deaths from zymotic diseases, which had risen from 56 in week ended February 6 to 71 in the following week, further rose to 79, or 58 over the average for the corresponding week of the last ten years. They comprise 43 from measles (against 26 from that cause in the preceding week), 5 from scarlatina (scarlet fever), 2 from typhus, 3 from influenza and its complications, 16 from whooping-cough—being a decline of 9 as compared with the number from that disease in the preceding week—1 from diphtheria, 3 from enteric fever, and 2 from diarrhoea. Of the 79 deaths from zymotic diseases 59 were deaths of children under 5 years of age.

The cases of measles admitted to hospital amounted to 122, being 10 in excess of the admissions in the preceding week: 104 measles patients were discharged, 5 died, and 255 remained under treatment on Saturday, being 13 over the number in hospital on that day week.

The weekly number of cases of scarlatina admitted to hospital, which had risen from 19 in the week ended January 30 to 33 in the following week, and to 42 in the week ended February 18, fell to 18. Twenty-two patients were discharged, 3 died, and 198 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week. This number does not include 20 convalescents at Beneavin.

The number of cases of enteric fever admitted to hospital was 5, being 2 under the number admitted in each of the two weeks preceding. Six patients were discharged, 1 died, and 38 remained under treatment on Saturday, being 2 under the number in hospital on that day week.

The hospital admissions included, also, 2 cases of small-pox, but no cases of typhus were received. During the preceding week 2 cases of the former and 7 cases of the latter disease had been admitted. Four cases of small-pox and 14 cases of typhus remained under treatment in hospital on Saturday.

The number of deaths from diseases of the respiratory system registered was 67, being 14 over the average for the corresponding week of the last ten years, but 18 under the number for the previous week. The 67 deaths comprise 44 from bronchitis, 16 from pneumonia, and 4 from croup.

In the week ending Saturday, February 27, the mortality in thirty-three large English towns, including London (in which the rate was 19·0), was equal to an average annual death-rate of 19·4 per 1,000 persons living. The average rate for eight principal towns of Scotland was 25·3 per 1,000. In Glasgow the rate was 28·6, and in Edinburgh it was 25·3.

The average annual death-rate in the twenty-three principal town districts of Ireland was 31·5 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 4·4 per 1,000, the rates varying from 0·0 in fifteen of the districts to 18·6 in Portadown—the 8 deaths from all causes registered in that district comprising 2 from measles and 1 from scarlatina. Among the 153 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 1 from whooping-cough, 1 from diphtheria, 6 from enteric fever, and 2 from diarrhoea. The 44 deaths in Cork comprise 2 from measles, 1 from whooping-cough, and 1 from diarrhoea. Among the 20 deaths in Limerick are 2 from enteric fever. The 26 deaths in Londonderry comprise 1 from each of the following—viz., scarlatina, diphtheria, and diarrhoea. Of the 5 deaths in Newry 2 were from whooping-cough.

In the Dublin Registration District the registered births amounted to 170—105 boys and 65 girls; and the registered deaths to 252—121 males and 131 females.

The deaths, which are 46 over the average number for the corresponding week of the last ten years, represent an annual rate

of mortality of 37·6 in every 1,000 of the population. Omitting the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 37·0 per 1,000. During the first eight weeks of the current year the death-rate averaged 40·3, and was 7·8 over the mean rate in the corresponding period of the ten years 1887-1896.

The number of deaths from zymotic diseases registered was 65, being 47 over the average for the corresponding week of the last ten years, but 14 under the number for the previous week. The 65 deaths comprise 34 from measles—showing a decline of 9 as compared with the number from that disease in the preceding week—2 from scarlet fever (scarlatina), 5 from influenza and its complications, 12 from whooping-cough (being 4 under the number for the preceding week), 3 from diphtheria, 2 from enteric fever, and 2 from diarrhoea. Of the 65 deaths from zymotic diseases 49 were deaths of children under 5 years of age.

There were 123 cases of measles admitted to hospital, being 1 over the admissions in the preceding week and 11 over those in the week ended February 13. One hundred and twenty-six measles patients were discharged, 7 died, and 245 remained under treatment on Saturday, being 10 under the number in hospital at the close of the preceding week.

There has been a further decline in the number of cases of scarlatina admitted to hospital, the admissions being 11 only, or 7 under the number for the preceding week, and 31 under that for the week ended February 13. Twenty-three patients were discharged, 1 died, and 125 remained under treatment on Saturday, being 13 under the number in hospital at the close of the preceding week. This number does not include 22 convalescents under treatment at Beneavin, Glasnevin.

Six cases of enteric fever were admitted to hospital, against 5 in the preceding week and 7 in that ended February 13. One patient was discharged, 1 died, and 42 remained under treatment on Saturday, being 4 over the number in hospital at the close of the preceding week.

Deaths from diseases of the respiratory system, which had fallen from 80 in the week ended February 13 to 67 in the following week, further declined to 63, but this number is 8 in excess of the average for the corresponding week of the last ten years. The 63 deaths comprise 33 from bronchitis, 17 from pneumonia, and 2 from pleurisy.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of February, 1897.

Mean Height of Barometer, -	-	-	30·001 inches.
Maximal Height of Barometer (on 22nd, at 9 p.m.)	-	-	30·569 „
Minimal Height of Barometer (on 1st, at 9 p.m.),	-	-	29·209 „
Mean Dry-bulb Temperature, -	-	-	45·1°.
Mean Wet-bulb Temperature, -	-	-	43·5°.
Mean Dew-point Temperature, -	-	-	41·6°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	-	-	·264 inch.
Mean Humidity, -	-	-	88·3 per cent.
Highest Temperature in Shade (on 19th), -	-	-	59·7°.
Lowest Temperature in Shade (on 1st), -	-	-	35·0°.
Lowest Temperature on Grass (Radiation) (on 28th), -	-	-	29·6°.
Mean Amount of Cloud, -	-	-	73·6 per cent.
Rainfall (on 16 days), -	-	-	1·395 inches.
Greatest Daily Rainfall (on 2nd), -	-	-	·269 inch.
General Directions of Wind, -	-	-	W., S.W., S.E.

Remarks.

Taken as a whole, this was one of the mildest Februaries on record in Dublin. There was scarcely any frost even on the ground, and the sky was often densely clouded. The first third of the month was gloomy and wet in Ireland, intensely cold in the North and North-east of Scotland, where the thermometer fell on the 4th to zero at Nairn and Lairg, and to -7° at Braemar. The minimum at Aberdeen at this time was 9° , whereas the thermometer rose at that place to 64° on the 22nd and to 61° on the 26th. Equatorial winds were prevalent during the greater part of the month.

In Dublin the mean temperature ($46\cdot0^{\circ}$) was $3\cdot2^{\circ}$ above the average ($42\cdot8^{\circ}$); the mean dry bulb readings at 9 a.m. and 9 p.m. were $45\cdot1^{\circ}$. In the thirty-two years ending with 1896, February was coldest in 1895 (M. T. = $34\cdot2^{\circ}$), and warmest in 1869 (M. T. = $46\cdot7^{\circ}$).

The mean height of the barometer was 30·001 inches, or 0·146 inch above the average value for February—namely, 29·855 inches. The mercury rose to 30·569 inches at 9 p.m. of the 22nd, having fallen to 29·209 inches at 9 p.m. of the 1st. The observed range of atmospheric pressure was, therefore, 1·360 inches.

The mean temperature deduced from daily readings of the dry

bulb thermometer at 9 a.m. and 9 p.m. was 45.1° , or 11.5° above the value for February, 1895. Using the formula, *Mean Temp.* = *Min.* + (*max.* - *min.* $\times .50$), the M. T. is 46.0° , compared with a twenty-five (1865-1889) years' average of 42.8° . On the 19th the thermometer in the screen rose to 59.7° —wind, S.W.; on the 1st the temperature fell to 35.0° —wind, E.S.E. The minimum on the grass was 29.6° , on the 28th.

The rainfall was 1.395 inches, distributed over 16 days. The average rainfall for February in the twenty-five years, 1865-89 inclusive, was 2.150 inches, and the average number of rainy days was 17.2. The rainfall, therefore, and also the rainy days, were below the average. In 1883 the rainfall in February was large—3.752 inches on 17 days; in 1879, also, 3.706 inches fell on 23 days. On the other hand, in 1891, only .042 inch was measured on but 2 days. The rainfall in 1891 was much the smallest recorded in February for very many years. The record is probably unparalleled in Dublin—.042 inch on 2 days. Neither hail, nor sleet, nor snow fell.

The atmosphere was foggy on 7 days—namely, the 3rd, 4th, 5th, 10th, 12th, 15th, and 17th. The amount of cloud—73.6 per cent.—was much above the average—66 per cent. High winds were noted on 7 days, and reached the force of a gale on the 18th, 20th, 24th, 25th, and 26th. A lunar halo was seen on the 16th.

The temperature reached or exceeded 50° in the screen on 14 days, and it never once fell below 32° , compared with as many as 18 nights in 1895, and only 1 night in 1896. The minima on the grass were 32° , or less, on only 4 nights, compared with every night in 1895, and 10 nights in 1896. The thermometer never failed to rise to or above 40° in the screen during the daytime.

The weather was exceedingly unsettled—cold, wet, gloomy, and foggy—during the greater part of the period ended Saturday, the 6th. But the most striking feature in the meteorology of the period was the occurrence of intense frost in the N. and N.E. of Scotland from the morning of the 1st to the evening of the 4th. This local area of cold was brought about by a combination of circumstances—namely, a country deeply covered with snow, a clear sky, and a tolerably calm atmosphere. The town of Nairn suffered most severely from the resulting chill—the minima in the screen there being 12° , 13° , 7° , 0° , 4° , and 26° respectively. This hyperborean cold had an extraordinary effect on the weather in England and Ireland, for it seemed to stop the Atlantic depressions in their passage north-eastwards—the result was gloom, fog, and downpours of rain or heavy falls of wet snow. The steepness of

the thermometric gradients over Western Europe was extreme on Tuesday, the 2nd, when a warm S.W. air-current blew across France with gale force. At 8 a.m. of that day the thermometer read 52° at Lorient and Jersey, 51° in Paris, 37° in London, but 16° at Nairn and 17° at Wick. In the course of the day it rose to 56° in Paris, but did not exceed 38° in London. At 8 a.m. of Wednesday the reading at Nairn was 10° , at Nice 56° , or a difference of 46° F. The maximum at Nice on this day was 70° . On Tuesday a trough of low atmospheric pressure stretched from the south of Ireland eastwards to the Netherlands, and on Friday a well-defined cyclonic system was found over the English Channel. These systems caused heavy rains in France, Ireland, and England. In Dublin the barometer ranged between 29.209 inches at 9 p.m. of Monday (wind, E.S.E.) and 29.695 inches at 9 p.m. of Wednesday (wind, S.E.). On Monday the screened thermometers fell to 35.0° , on Thursday they rose to 49.5° . The rainfall was .571 inch on six days, .269 inch being measured on Tuesday. The prevailing winds were easterly.

A very decided advance in temperature was observed during the week ended Saturday, the 13th, the weather of which was of the south-westerly type—open, cloudy and damp. Between Monday and Friday a large area of low atmospheric pressure travelled slowly north-eastwards from the N.W. of Scotland to the N. of Scandinavia. From Wednesday a shallower depression was found over the S. and S.W. of Ireland. The latter disturbance equalised pressure, and so caused a temporary fall of temperature on Wednesday. This was followed by easterly and south-easterly breezes; gloom and fog succeeding on Friday, when a sharp frost visited the Scottish stations, the screened thermometer falling to 29° at Ardrossan, 28° at Stornoway, 26° at Leith, 25° at Wick, and 24° at Nairn. At the beginning of the week intense cold still held in the Baltic and Gulf of Bothnia—at Haparanda the minimum on Sunday was -24° , on Monday it was -27° . The corresponding values at Hernösand were -18° and -17° . At 8 a.m. of Tuesday the thermometer at this latter station stood 38° higher than at 8 a.m. of Monday. In Dublin the mean height of the barometer was 30.032 inches, pressure ranging between 29.841 inches at 9 a.m. of Tuesday (wind, W.) and 30.163 inches at 9 a.m. of Wednesday (wind, calm). The range of pressure was therefore small. The mean temperature was 45.2° , the mean dry bulb reading at 9 a.m. and 9 p.m. being 44.8° . On Wednesday the screened thermometers fell to 36.0° ; on Saturday they rose to 53.0° . Rain fell on 4 days to the amount of .377 inch, .240 inch being

registered on Monday. The prevailing winds were westerly, but an easterly breeze blew from Wednesday evening to Friday at noon.

Weather of the south-westerly type—open, cloudy, and often damp—was in evidence throughout the week ended Saturday, the 20th, and temperature again showed a substantial advance, although a temporary chill occurred on the morning of Wednesday the 17th. At the beginning of the period very intense cold held over the North of Europe—at 8 a.m. of Sunday the thermometer read -17° F. at Haparanda on the Gulf of Bothnia; on Monday morning it marked -9° at Hernösand and -6° at Karlstad in Sweden. A change then took place, as a large and deep depression reached the N.W. of Norway from the westward, and a general thaw set in all over Scandinavia—the 8 a.m. temperatures at Karlstad for the rest of the week were 23° , 42° , 39° , 35° , and 35° respectively. The south-westerly current, which flowed over the British Islands at the periphery of the depression in the far north, brought with it unusual warmth, so that on Friday the thermometer rose almost to 60° in the screen in Dublin. It should also be mentioned that an anticyclone existed over France, Germany and the southern parts of the British Isles from Monday, so that at times the S.W. winds were very dry and somewhat searching in character. This was notably the case early on Thursday morning and again on Saturday. At 9 a.m. of Thursday the relative humidity was only 68 per cent. in Dublin. On Saturday evening a heavy fall of rain occurred and there was a fresh S.W. to W. gale. The mean atmospheric pressure was 30.215 inches, the barometer rising to 30.543 inches at 9 a.m. of Tuesday (wind, S.W.) and falling to 29.883 inches at 8 p.m. of Saturday (wind, W.S.W.). The mean temperature was 47.5° . The mean dry bulb temperature at 9 a.m. and 9 p.m. was 45.9° . On Wednesday the screened thermometers fell to 37.1° , on Friday they rose to 59.7° . The rainfall was .267 inch on three days, .211 inch being measured on Saturday. The prevailing winds were S.W. and W. Gales occurred on Thursday and Saturday.

Stormy, open, cloudy weather was prevalent throughout the week ended Saturday, the 27th; but except in the north and west of Ireland the rainfall was not heavy. The distribution of atmospheric pressure over northern and western Europe was eminently calculated to produce westerly gales. Thus, an area of high atmospheric pressure, near the centre of which the barometer stood at 30.7 inches or upwards, stretched from the Bay of Biscay eastwards across France, while a constant succession of depressions

swept north-eastwards across the Norwegian Sea and Norway. At the very beginning of the period a well-marked secondary depression moved rapidly over the British Isles towards E.S.E., the centre reaching Holland at 8 a.m. of Sunday. This disturbance caused strong S.W. to N.W. gales, which were however of short duration. In its rear the barometer rose quickly, so that by 8 a.m. of Monday it reached 30·76 inches at Brest and Lorient. On this day a warm wave swept over our Islands, the maximal thermometric reading being 64° at Aberdeen. On Wednesday morning the barometric gradient was very steep—pressure ranging from 30·71 inches in Paris to 29·05 inches at Bodö, in Norway. Twenty-four hours later a new and deep depression had advanced to the neighbourhood of the Hebrides, so that south-westerly gales again sprang up in Ireland, Scotland, and parts of England. Heavy rain was reported from Valentia (·60 inch), Belmullet (·85 inch), and Stornoway (·50 inch). On Friday afternoon the wind moderated and temperature gave way. Saturday was a beautiful, sunny, spring-like day. In Dublin the mean height of the barometer was 30·255 inches, pressure ranging between 30·569 inches at 9 p.m. of Monday (wind, W. by S.) and 29·765 inches at 7 15 a.m. of Thursday (wind, S.W.). The mean temperature was 49·7°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 48·8°. On Thursday the screened thermometers rose to 58·6°, on Saturday they fell to 37·8°. The rainfall was ·121 inch on two days, ·109 inch being registered on Wednesday.

Sunday, the 28th, was dull, threatening and showery in the daytime. In the evening the sky cleared and temperature fell.

In Dublin the rainfall up to February 28th, 1897, amounted to 4·089 inches on 33 days compared with only 1·588 inches on 24 days in 1896, 6·336 inches on 33 days in 1895, 4·741 inches on 39 days in 1894, 4·908 inches on 41 days in 1893, 3·817 inches on 39 days in 1892, ·714 inch on 16 days in 1891, and a twenty-five years' (1865–1889) average of 4·350 inches on 34·5 days.

At Knockdolian, Greystones, Co. Wicklow, 1·530 inches of rain fell in February on 17 days. The heaviest fall in 24 hours was ·190 inch on the 3rd. The total fall to February 28th inclusive was 5·190 inches on 37 days, compared with only 1·940 inches on but 17 days in the corresponding period of 1896.

The rainfall in February at Cloneevin, Killiney, Co. Dublin, amounted to 1·23 inches on 18 days. The average rainfall for February during 12 years (1885–96) at this station is 1·461 inches on 12·5 days. The greatest rainfall in 24 hours was ·18 inch on the 8th. Since January 1, the rainfall was 4·31 inches

on 38 days, compared with 1.64 inches on 19 days in the same period in 1896.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, rain fell on 15 days in February, the total measurement being 1.718 inches. On the 4th, .281 inch was registered. At this climatological station there was no frost in the screen during the month, the minimum being 33.4° on the 1st. The maximal temperature was 56.4° on the 25th. On 16 days the thermometer rose above 50° in the screen. Since January 1 the rainfall has been 5.59 inches on 34 days.

AUGUST IN THE UNITED STATES.

In Chicago there were 148 deaths from sunstroke during the week ended August 15. The following shows the mortality of four Eastern cities:—New York, heated term began August 4; total deaths 2,429; maximum temperature August 9, 98°; previous record July 24–30, 1892, total deaths 1,615, mean temperature 83°, maximum temperature 97°. Philadelphia, heated term began August 2; total deaths 1,328; mean temperature 82.7°; maximum, August 11, 98°; previous record June 30 to July 13, total deaths 1,649, mean temperature 86°. Washington, heated term began August 1; total deaths 39; mean temperature 81°; maximum temperature August 6, 98°; previous record July 1 to August 3, total deaths 66, mean temperature 84.9°, maximum 97. Baltimore, heated term began August 4; total deaths 344; mean temperature 84.2°; maximum 98°.

The deaths from sunstroke in Chicago amounted to 165. It is estimated that more than 800 horses fell victims to the heat.—*Jour. Am. Med. Assoc.*

SUICIDES.

The Gazette Médicale de Paris quotes the following figures from *Médecine Moderne*. M. Pawlowski states that not less than 25,000 suicides occur annually in Europe. In France, the number of suicides has increased one-third in the second half of the century up to 1830. Since 1880 they have increased still more; in 1895 there were 8,226. Women are well represented in the lists; and in 1894, 80 children committed suicide. England produces the greatest number of female suicides. Scandinavia and Hungary rank next. In France in a million of adult females there are 80 suicides of unmarried girls, and 80 of wives. The number of suicides between the ages of 50 and 60 is double that of the number between 40 and 50.

PERISCOPE.

GLANDULAR FEVER IN CHILDREN—"FEBRILE POLYADENITIS."

WRITING of the above as "Drüsenfieber," Pfeiffer, in 1889, pointed out to the profession its possible existence as a distinct and separate disease. Since then, Filatow, Hesse, Starck, Mousons, Cornby, and Park West have from time to time added to the literature of the subject; and lately Dawson Williams (*The Lancet*, Jan. 16th, 1897) has made a lucid and valuable contribution on it.

Symptoms.—The onset of the disease is usually sudden, and may be ushered in by convulsions or rigors. It is characterised by a rise of temperature to 101° – 103° F., and by enlargement of the cervical glands at the angle of the jaw and beneath the sterno-mastoid muscles. The glands of the left side are said to be affected before those of the right. They are tender and painful to manipulation, and give rise to stiffness of the neck and marked discomfort on movement. The enlargement commences on or about the third or fourth day of the illness, continues for from three to six days, when resolution commences, and is usually completed in from a fortnight to three weeks. Suppuration did not occur in any of Dawson Williams' cases. There are, in addition to the foregoing symptoms, signs of derangement of the digestive organs, such as foul tongue, anorexia, nausea, sometimes vomiting, constipation of a relapsing character, though in milder cases diarrhoea may be present. Pain in the abdomen is a prominent symptom, and examination usually reveals enlargement of the liver, spleen, the mesenteric, and occasionally the inguinal glands. Examination of the fauces and pharynx revealed undue redness in some cases, though there was "nothing like definite pharyngitis or tonsillitis." There may be difficulty of swallowing owing to the enlarged and painful cervical glands. No eruption has been hitherto described. Acute nephritis may occur in some cases. The disease is mild, and is seldom directly fatal in itself, though complications may prove so. Convalescence is established by the middle of the third week, is very prolonged, and is characterised by marked anæmia, debility, and profound systemic depression. The disease is infectious, and runs through the younger members of a household as a limited epidemic.

Treatment.—Dr. Dawson Williams makes the following remarks:—"Treatment does not, so far as I have observed, or so far as can be gathered from the literature, exercise any influence over the

course or duration of the malady. A cold compress to the neck or, in the more severe cases, belladonna fomentations, relieve the local symptoms, but do not prevent the onset of adenitis on the opposite side. The bowels respond readily to laxatives, but the constipation soon returns. Purgatives, such as calomel, do not produce any more permanent effect, and Dr. Park West states that in some of the cases in which resort was had to this practice it seemed to be responsible for greater depression and a more prolonged convalescence."—*Treatment*, March, 1897.

STATISTICS OF LACTATION.

DR. WIEDEN (*Centralbl. f. Gynæk.*) has collected interesting statistics at the Freiburg Maternity. Out of five hundred and twenty-five in child-bed, only one-half could suckle thoroughly during the first two weeks; ninety-nine secreted no milk; forty-nine had imperfect nipples; forty-six had fissured nipples; and forty-four had insufficient secretion of milk. Only thirty-three suckled without unfavourable complications. The development of the nipple seemed to bear a direct relation to the value of the breast as a secretory organ.—*Medical Standard*.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Filmogen.

MESSRS. THOMAS CHRISTY & Co., 25 Lime-street, London, E.C., have recently brought under our notice a new medium for applying to the skin such drugs and remedies as are used in dermatology. This medium is supplied under the name of Filmogen (Dr. Schiff) or Liqueur Adhæsivus. When it is painted over the skin, it immediately forms a thin, non-sticky, and flexible film which adheres firmly and is unaffected by mechanical friction or by washing with water. Filmogen consists of a solution of nitrated cellulose in acetone, to which is added a very slight quantity of oil to render the film flexible after evaporation of the acetone. Most of the remedies used in dermatological practice are soluble in filmogen to a very considerable extent, such as salicylic acid, resorcin, iodoform, pyrogallol, sublimate of mercury, chrysarobin, cocaïn, ichthyol, and carbolic acid, whilst others, such as sulphur, acetate of lead, oxide of zinc, lead iodide, &c., are easily suspended in this medium. The evaporation of the acetone produces merely a cooling sensation. On open wounds, the application smarts for a second or two, but otherwise is perfectly harmless and painless. The above-

mentioned facts point to the advantages of filmogen over other similar media. The various varnishes sometimes used for applying remedies will not easily absorb them, and the application of varnish often causes considerable irritation and soreness. They are also frequently sticky and unpleasant to use. Collodion and traumaticin are not sufficiently resistant, the film becoming brittle or peeling off. Filmogen remains flexible and adheres firmly to the skin or wound, forming a protective film or covering to the diseased parts. It permits of the full action of the drug incorporated with it. Filmogen is not soluble in water. After painting the parts they can be washed, the film preventing their coming in actual contact with the water. Filmogen is easily removed by means of alcohol. The use of filmogen for antiseptic surgical dressings has been suggested in view of the solubility therein of iodoform, sublimate of mercury, carbolic acid, &c.

Dr. E. Schiff recently read a paper on the subject of filmogen before the Third International Congress of Dermatology in London.

New Palatinoids and Bipalatinoids.

MESSRS. OPPENHEIMER, SON & Co., Limited, 14 Worship-street, London, E.C., have submitted for our inspection specimens of some new palatinoids and bipalatinoids which they have designed:—*Thyrocol Palatinoids.*—Thyrocol is the active colloid matter of the sheep's thyroid gland, isolated according to the process developed by Dr. Hutchison, of Edinburgh, and exclusively prepared by Messrs. Oppenheimer in accordance with his instructions. It is claimed for thyrocol that it is more uniform in effect and much less prone to decomposition than the ordinary preparations of the thyroid gland. The dose also is smaller— $\frac{1}{2}$ gr. of thyrocol is equivalent to 5 grs. of sheep's thyroid gland. The palatinoids of thyrocol each contain $\frac{1}{2}$ gr. *Amyl Nitrite Palatinoids.*—Each palatinoid contains 3 minims in a jujube cachet, from which the contents may be easily squeezed upon a handkerchief for inhalation. They prevent any risk of injuring the hand, as sometimes happens when glass capsules are employed. *Creasote with Compound Hypophosphites Bipalatinoids.*—This formula was suggested by a leading physician in the treatment of diseases of the respiratory organs. The bipalatinoid is composed of a soluble glycerine jujube cachet divided in the centre by a septum of the same material. In one compartment is contained the creasote specially purified, and free from irritative cresols, and in the other compartment the compound syrup of hypophosphites.

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OF

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PART I.

ORIGINAL COMMUNICATIONS.

ART. XVIII.—*Angina Pectoris*.^{*} By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

"IN spite of the numerous publications which treat of *angina pectoris*, the history of that complaint is not very satisfactorily known; and the various opinions which have been expressed as to its nature have thrown so little light on the subject that I wish, in my turn, to communicate to you my views concerning this singular neuralgia." This introductory sentence is *not* original; it forms the opening paragraph of the New Sydenham Society's version of Trousseau's lecture on the subject. Following the inspiring example of one of the most graphic delineators of clinical symptoms known in the annals of the literature of medicine, I propose to contribute my small mite to the general fund of the knowledge of an interesting and, still, obscure condition.

I have seen one hospital case (as a student); two of his paroxysms occurred in my presence. I have also seen another hospital case since, but had no opportunity of observing his symptoms. I have been consulted, at long intervals, by three (male) patients, all of whom described the

^{*} Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 9, 1897.

symptoms of angina pectoris with admirable fidelity; two of these were, however, country residents, each of whom I saw but a few times, and never in a paroxysm; the third lived in Dublin, and I saw him in several of the attacks; but I lost sight of him in a short time, because, although I had given him considerable relief, I could not promise him a perfect cure, so he wished to try his fortune elsewhere.

The case from which I have derived most of my personal experience occurred in the person of a lady whom I had under daily observation for over seven months. Her symptoms—forming, as they did, a very typical specimen of the comparatively rare group of phenomena that are usually denoted by the term which forms the title of this paper—may not, I hope, be found unworthy of a few minutes' attention from the Fellows and Members of the Medical Section of the Royal Academy of Medicine in Ireland.

CASE.—The patient referred to was (according to her own account), when she first consulted me, in the seventy-eighth year of her age; she was tall and stately in her demeanour, with very pronounced sharply-cut features—one of which was a very prominent aquiline nose. Her voice was decidedly harsh and unsympathetic. She was of English birth, of good family, had always lived in affluence, and had always been an extremely active—restlessly active—woman. She was a widow—had been so for a good many years; had had a numerous family, most of whom had died after reaching adult life. The death of one, which had occurred but a few years before, had probably given her as much sorrow as she was capable of feeling, for he was her special favourite.

She had suffered from no very special illness during the period of her memory till about three years before she consulted me, when, as she told me, she had been dreadfully tortured for fifteen weeks by very severe intermittent pains in the upper part of the front of the chest on the left side. The diagnosis had been "acute muscular rheumatism," and the treatment was carried out by the local application of liniments and the internal administration of medicines. Neither had ever given her the slightest relief. Her present trouble had commenced one forenoon when, as she returned from the transaction of some marketing business, she was suddenly seized, while ascending an incline to her residence, with intense pain in the front of the chest, and extending to the left side. The attack brought

her to an immediate stand-still; the pain soon subsided, and she walked very cautiously to the next lamp-post, and supported herself by it with her arms raised, which was the position which she instinctively adopted. There was a fear of return on moving, which disappeared in two or three minutes, and she then cautiously went to her house, and had no further trouble of that kind for the rest of that day. But, on the succeeding days, she was always seized—sometimes two or three times—when making some sudden exertion or involved in some fuss; and the attacks lasted a considerable time, up to half an hour or more.

On the day of my first visit—the fourth from the first seizure—she had had a very severe paroxysm, and described it to me very graphically. The onset was always instantaneous; she felt a sudden constricting sensation, of the most excruciatingly painful kind, in the precordial and mid-sternal regions. She emphatically indicated the exact mid-point of the junction between the first and second pieces of the breast-bone as the focus of most intense torture. The pain was described as crushing and grinding in character—it rapidly girdled the chest about the level of the mammillæ, formed another special centre in the left infraclavicular fossa, from which it passed towards the shoulder-joint. In the worst paroxysms it radiated in all directions—around the whole chest, upwards to the infraclavicular fossæ, from which it passed under the collar-bones to the sides and back of the neck, and even to the sub-occipital region; it fastened on the middle of the chin with intense force—“compressing it as in a vice;” it passed also downwards to the hypochondriac regions, to the inguinal areas, and even below the groins to the front and inside of the thighs; it passed laterally to the shoulder of each side, and passed down the inside of the arm as far as the finger-tips—observing in this course, pretty accurately, the distribution of the ulnar nerves.

In the milder attacks the left arm only was affected, in addition to the focal affections of the mid-sternum, præcordia, and left infraclavicular fossa. The pain passed up from the præcordia to the subclavicular region, and outwards towards the shoulder; the position of the bicipital groove was often indicated as a seat of peculiar torture. Thence it passed down on the inner side of the limb, towards the elbow; and, in the milder attacks, it frequently ended about the position of the internal epicondyle, into the upper side of the base of which the sensation of the driving-in of a nail was felt during the paroxysms. But in the severer ones, the lightning pain always passed down to the little and ring fingers, and the

sufferer was able to indicate with remarkable clearness the distribution of the terminal branches of the ulnar nerve.

A point that very specially interested me in the very vivid descriptions of symptoms which I received day after day in this case was that in the worst paroxysms she frequently noticed that the pain commenced at the periphery—ulnar side of left little finger, or (less frequently) upper side of base of left internal epicondyle—and, after one or two warning tingles, shot up to the shoulder and inwards to the mid-sternal and præcordial areas.

The next feature of the history which specially interested me was one which I only discovered after I had seen my patient a good many times—it was that her former attack of “muscular rheumatism” was similar in all its features to her present complaint. She had been reticent about it—I think because the treatment adopted had no effect, and her principal medical attendant on that occasion was a relative of her own. During the attacks, as she frequently described to me afterwards, she often went on her knees on the drawing-room hearth-rug, and remained in that position for over two hours, with her head bowed down and her hands to the front of her chest, and the cold sweat dropping from her brow; all the time fearing to move or draw a deep breath, lest her torture should be increased, and feeling that any increase of it must extinguish life.

I also ascertained that the first paroxysm from which she had ever suffered occurred in bed—about 6 a.m. I could not get any clue to an exciting cause. For many years she had been a comparatively bad sleeper; and the general restlessness of her disposition served to make that a more serious predisposing cause of almost any conceivable neurosis than it might have proved in most other persons.

The breathing, heart's action, and pulse were perfectly regular, and continued so throughout. I often hastily examined the pulse and chest during a paroxysm, and can say positively that there was never any pronounced effect on either the cardiac action or the respiration—more than would necessarily accompany the constrained position which was instinctively adopted, and the fear of moving—especially of expanding the chest—lest the pain should be

increased. The breathing was necessarily shallow, but air entered everywhere, and the pulse and heart's action were slightly accelerated—nothing more.

I suspected, of course, atheroma; but could make out no evidence—the superficial arteries displayed no marked tortuosity or rigidity—in fact, considering the advanced age of the patient, there was a conspicuous absence of such phenomena; and, as there was no superfluous fat anywhere, there was special facility for examining them. I tried, over and over again, to discover an aortic aneurysm, but failed. Then there was no other pressure symptom that I could make out. Her peculiarly raucous voice made me think of reflex laryngeal stimulation from such a source, but I ascertained from friends of over twenty years' standing that it had always been "like that." But I must mention here that during the last week or so of her life she spat up, without coughing, a little red blood from time to time.

The severer paroxysms—two of the days preceding my visit, and most of those of the former date—lasted up to about two and a half or three hours. I immediately procured a stock of nitrite of amyl capsules, and gave her directions how to use them; this she continued to do during the remainder of her life. This remedy never failed to relieve and cut short the paroxysm—less rapidly, however, as the case grew older; and instead of one capsule sufficing, as it used to do at first, she was in time brought to use as many as three before the desired effect was obtained. I gave iron and digitalis in mixture—they seemed to have a good effect: the heart showed no symptoms of actual failure throughout. The compound camphor liniment of the B. P. was rubbed in over the specially affected parts of the chest for ten minutes, morning and evening. Sulphonal tabloids (Burroughs, Wellcome & Co.) were given to procure sleep. They did succeed in giving sleep, without any compromising results; but no medicinal or moral suasion that I could bring to bear upon the case seemed to give any hope of rest during the day. She was never easy or comfortable herself, and seemed to be specially anxious that nobody in her vicinity should be either. I hesitated for some days to tell her that the great danger of over-exertion

or worry in such a case as hers was the occurrence of *sudden death* ; but when I felt constrained at last to communicate this intelligence, she gave me to understand that she considered she would be better prepared to meet her Maker by continuing the active discharge of her duties in this world so long as she was at all able to do so. She naturally soon got tired of every medicine I tried. She struck against the nitrite of amyl capsules for a few days : but that experiment was a dead failure ; the paroxysms, in the absence of the accustomed remedy, and in presence of the highest degree of mental combativeness, returned again and again with tremendous force—often three or four in a day, and in less than a week convinced her that it was better upon the whole to follow my suggestions. She never tried to give them up after that. During this interregnum I induced her to try the effect of the trinitrin tabloids, but they appeared to have no effect whatever. I often changed the iron and digitalis mixture for something else, but always went back to it after a time. In the intervals I gave her such medicines as belladonna, cannabis indica, stramonium, and valerian. During the time that the two last were taken in combination the paroxysms certainly appeared to be less frequent than at other times. I was always, however, obliged to change the mixture after the third bottle. I induced her to take morphin tabloids—and I had a good deal of trouble in doing it, for she did not like the idea of accustoming herself to the use of that drug—and I must say that for her general condition it seemed to do her more good than anything else I tried. She was less restless in her movements, and less emphatic in the expression of her opinions when taking morphin, and I fully believe that it lengthened her life. I advised her to treat herself generously in the way of the use of the best wines and the most carefully selected diet. She began to take some champagne, but did not continue the regular use of even it long.

I should mention that the close of the paroxysms were followed by the copious flow of urine and gaseous eructations, which are so frequently described as characteristic of this affection. The intense fear of impending dissolution, which some authorities have professed to regard as an essential

feature of true angina, can hardly be said to have existed in a pronounced form in this case.

Before I proceed further in any remarks on this rather uncommon affection, I will quote in full the original description of the first sponsor of *Angina Pectoris*. It is short; and, if even only as a specimen of clinical word-painting, well merits the trouble of perusal:—

“There is a disorder of the breast, marked with strong and peculiar symptoms, considerable for the kind of danger belonging to it, and not extremely rare, of which I do not recollect any mention among medical authors. The seat of it, and sense of strangling and anxiety with which it is attended, may make it not improperly be called *Angina Pectoris*.

“Those who are afflicted with it are seized while they are walking, and more particularly when they walk soon after eating, with a painful and most disagreeable sensation in the breast, which seems as if it would take their life away if it were to increase or to continue: the moment they stand still all the uneasiness vanishes. In all other respects the patients are, at the beginning of this disorder, perfectly well, and in particular have no shortness of breath, from which it is totally different.

“After it has continued some months, it will not cease so instantaneously upon standing still; and it will come on, not only when the persons are walking, but when they are lying down, and oblige them to rise up out of their beds every night for many months together; and in one or two very inveterate cases it has been brought on by the motion of a horse or a carriage, and even by swallowing, coughing, going to stool, or speaking, or by any disturbance of mind. I have heard one, and only one, person say that he had known it attack him while he was up and standing still, or sitting. But most whom I have seen have been perfectly unaffected with riding in any manner, with speaking, swallowing, laughing, sneezing, or vomiting. One has told me that this complaint was greatest in winter; another, that it was aggravated by warm weather: in the rest, the seasons were not suspected of making any difference.

“I have observed something like this affection of the

breast in one woman who was paralytic, and have heard one or two young men complain of it in a slight degree; but all the rest, whom I have seen, were men, and almost all above fifty years old, and most of them with a short neck, and inclined to be fat.

“When a fit of this sort comes on by walking, its duration is very short, as it goes off almost immediately upon stopping. If it comes on in the night, it will last an hour or two; and I have met with one, in whom it once continued for several days, during all which time the patient seemed to be in imminent danger of death.

“When I first took notice of this distemper, and could find no satisfaction from books, I consulted an able physician of long experience, who told me that he had known several ill of it, and that all of them had died suddenly. This observation I have reason to think is generally true of such patients, having known six of them, for whom I had been consulted, die in this manner, and more, perhaps, may have experienced the same death, which I had no opportunity of knowing. But though the natural tendency of this illness be to kill the patients suddenly, yet, unless it have a power of preserving from all other ails, it will easily be believed, that some of them, who are afflicted with it, may die in a different manner, since this disorder will last, as I have known it, more than once, near twenty years, and most usually attacks only those who are above fifty years of age. I have accordingly observed one who sunk under a lingering illness of a different nature.

“The os sterni is usually pointed to as the seat of this malady, but it seems sometimes as if it was under the lower part of it, and at other times under the middle or upper part, but always inclining more to the left side, and sometimes there is joined with it pain about the middle of the left arm. What the particular mischief is, which is referred to these different parts of the sternum, is not easy to guess, and I have had no opportunity of knowing with certainty. It may be a strong cramp, or an ulcer, or possibly both.

“The opinion of its being a convulsion of the part affected will readily present itself to any one who considers the sudden manner of its coming on and going off; the long

intervals of perfect ease; the relief afforded by wine and spirituous cordials; the influence which passionate affections of the mind have over it; the ease which comes from varying the position of the head and shoulders, by straitening the vertebræ of the thorax, or by bending them a little backwards or forwards; the number of years which it will continue without otherwise disordering the health; its generally bearing so well the motion of a horse or carriage, which circumstance often distinguishes spasmodic pains from those which arise from ulcers; and lastly, its coming on in certain patients at night, just after the first sleep, at which time the incubus, convulsive asthmas, numbnesses, epilepsies, hypocondriac langour, and other ills justly attributed to the disturbed functions of the nerves, are peculiarly apt either to return or to be aggravated.

“The pulse is, at least sometimes, not disturbed by this pain, and consequently the heart is not affected by it, which I have had an opportunity of knowing by feeling the pulse during the paroxysm, but I have never had it in my power to see anyone opened who had died of it, the sudden death of the patients adding so much to the common difficulties of making such an enquiry, that most of these, with whose cases I had been acquainted, were buried before I had heard that they were dead.

“But though it be most probable that a strong spasm be the true cause of the disorder, yet there is some reason for thinking that it is sometimes accompanied with an ulcer, and may partly proceed from it, for I have seen two of these patients who often used to spit up blood and purulent matter, one of whom constantly asserted that he felt it come from the seat of the disorder. Another had no painful sensation in swallowing, and upon pressing the part, which seemed to be affected. From a fourth, who fell down dead without any notice, there immediately arose such an offensive smell as made all who happened to be present judge that some foul ulcer had just then broken.

“Bleeding, vomits, and other evacuations have not appeared to me to do any good. Wine and cordials taken at going to bed will prevent, or weaken, the night fits; but nothing does this so effectually as opiates. Ten, fifteen, or

twenty drops of tinctura thebæicæ taken at lying down will enable them to keep their beds till morning, who had been forced to rise, and sit up two or three times every night, for many months. Such a quantity, or a greater, might safely be continued, as long as it is required; and this relief afforded by opium may be added to the arguments, which prove these fits to be of the convulsive kind. Time and attention will, undoubtedly, discover more helps against this teasing and dangerous ailment; but it is not to be expected that much can have been done towards establishing the method of cure for a distemper hitherto so unnoticed that it has not yet, as far as I know, found a place or a name in the history of diseases."

(*To be continued.*)

ART. XIX.—*The Spread of Tuberculosis by the Milk Supply.**
By T. PERCY C. KIRKPATRICK, M.D.

THE question of the spread of Tuberculosis has of late attracted in a very marked manner the attention of the medical profession. There are various reasons why this should be so, a review of some of which may not be out of place here.

The identity of the cause of this disease in its various manifestations both among the lower animals and man has now been placed beyond the region of dispute. Further, the infectious nature of the disease has also been definitely settled by scientific experiment. Since these facts have been recognised, it has become a question of the greatest practical importance for prophylactic medicine to consider how far the prevalence of this disease among men is due to infection from animals, either by the way of the food supply, or by contact. The importance of this is further intensified by the fact that it is becoming more and more widely recognised that the satisfactory treatment of this disease must, to a large extent, be relegated to this department of medicine.

When we come to consider the prevalence of this disease in our midst, also the ravages which it commits, the wonder

* Address read before the Dublin University Biological Association on April 8, 1897.

seems to be that the question should have been neglected so long. In the returns of the death-rate for the ten years 1885--1894, for the City of Dublin and district, it is stated that 12,486 out of a total of 95,158 deaths were attributed to phthisis or consumption. Nor can this be considered as at all representing the total number of persons suffering from the various forms of the disease, for it leaves out of account altogether the various manifestations of it in the osseous, glandular and nervous systems. The number of deaths among children for which tabes mesenterica is accountable is scarcely credible. The returns of the Registrar-General for Ireland show that during twenty-five years the number of deaths from this cause was 29,133, and of these 90·1 per cent. were in children under ten years of age, while 80·6 per cent. were in children under five years of age.

Turning now to the question of the prevalence of the disease among cattle, let us consider what evidence can be adduced on this point.

In considering this question it must be remembered that these figures are collected in a very different manner. While among human beings it is only those who die of the disease who are registered, among cattle it is those which were slaughtered for other diseases, but found to be tubercular that enter the records.

Tuberculosis has long been recognised as a disease very prevalent among cattle, but it is only within recent years that definite statistics on the subject have been collected. The large number of cattle slaughtered under the Pleuropneumonia Order has afforded veterinary surgeons the material for very complete evidence on this subject, of which they have not been slow to avail themselves.

I shall quote a few figures from the Report of the Director of the Veterinary Department for England as evidence on this point.

In the Report for the year 1891, he says:—

“Of the total cattle slaughtered 12·22 per cent. were found more or less tuberculous—of cows or heifers in milk or in calf slaughtered 16·09 per cent. were tuberculous; bulls, 1·53 were tuberculous; other cattle under one year old 1·2 per cent. tuberculous.

“In Midlothian of the cows slaughtered 22·5 per cent. were

affected with tubercle. In London and district round, 15·53 per cent. of cows slaughtered were tuberculous." Again:—"The percentage of tuberculous cows among some herds was very high, as many as 75 per cent. existed in several, and only a few herds were without tuberculous animals."

Again, in the Report for 1892 we find it stated:—"That a much greater proportion of animals were found affected with that disease (tuberculosis) than was reported in 1891. Of the cows slaughtered in London on account of pleuropneumonia, 25 per cent. were tuberculous. In one herd of 20 cows 14 were found to be affected, and in several herds the percentage of tuberculous animals amounted to between 30 and 40 per cent. Cows slaughtered in Midlothian were found to be tuberculous to the extent of 20 per cent. In Yorkshire 22·8 per cent. were affected, and in Durham 18·7 per cent."

We have not, I am sorry to say, such full records for Ireland, but those at our disposal indicate that the circumstances here are not very different. I have been favoured by the Veterinary Department of the Privy Council Office, with the following statement:—

"It appears from the Departmental Records, that the *post-mortem* examination of the lungs of cattle slaughtered by direction of the Veterinary Department, between the years 1888 and 1893 in the North and South Dublin Unions as having been in contact with cattle affected with pleuropneumonia, or otherwise exposed to the infection of that disease, showed that the proportion of cases in which the lungs were affected with tuberculosis was almost 5 per cent. The majority of the cattle slaughtered were dairy cows.

"In the year 1893, however, about 160 cattle were slaughtered in county districts as suspected of pleuropneumonia, but on *post-mortem* examination were found free from that disease. In 78 cases the lungs were affected with tuberculosis; 30 of these were from the county of Limerick."

When we remember that affection of the lungs is only one mode of infection among cattle, these statements will, I think, have a very significant bearing on the question of the prevalence of the disease, especially among dairy cattle.

The evidence points very strongly to the fact that dairy cows are much more affected with the disease than even those animals of the same species which live principally an outdoor life. This fact is also very strongly brought out if we compare dairy cattle with other domestic animals, such as sheep, who habitually live out of doors in pastures. Tuberculosis is comparatively a rare disease among sheep.

This is quite in accordance with what we should expect from a general knowledge of the disease. The ease with which infection of one animal by another can take place is largely increased by having a lot of animals confined together in often badly ventilated sheds. Hirsch, in his handbook of Geographical and Historical Pathology, in speaking of the various factors in the causation of tuberculosis makes the following remarks:—

“Among these detrimental things in social life we have, according to nearly unanimous opinion to assign the first place, along with insufficient or bad food, to the bad domestic hygiene—to the influence of continuous residence in crowded living rooms, and work rooms tainted with organic and inorganic exuviae, ill ventilated and damp. In fact it would be hard to find any factor in the production of phthisis which can claim more importance than that.”

How often are these factors at work in our dairy yards, or rather one might ask when are they not?

From *à priori* considerations, then, one would expect to find tuberculosis much more common among dairy cattle, and this is exactly what the figures quoted above prove to be the case.

The question now arises, what danger to the public health exists from this state of things, or what evidence can be adduced to prove that human tuberculosis is in any way caused by infection from the lower animals through the food supply? An inquiry of this kind is beset with difficulties. It is impossible to make scientific experiments on human beings in order to see if they can be so infected as is done with the lower animals. There is also the difficulty of applying to human beings the result of these scientific experiments. How far human tuberculosis is of alimentary origin is a question which will, in all probability, never be accurately answered. This difficulty has been so well

anticipated by Professor Koch as long ago as 1884, that I shall quote his own words on the subject.

Speaking of the identity of the various forms of tuberculosis as manifested in the human subject, Koch, in his paper on the ætiology of tuberculosis, published in 1884, goes on to say:—

“The relation between human and animal tuberculosis, particularly *Perlsucht*, is a similar one. Here, too, in spite of the differences in the anatomical conditions and clinical course, they must be regarded as identical diseases on account of the identity of the parasite to which they are due. Common as tuberculosis due to inhalation is, the mode of infection can be fixed with scientific accuracy in only relatively few cases. Much less will this be possible in the considerably rarer cases of intestinal tuberculosis resulting from the consumption of the flesh or milk of cows with *Perlsucht*, because here the uncertainty will be still more increased by the ease with which other and commoner modes of infection may be mistaken from the true one. It is, therefore, much to be doubted whether a single case of tuberculosis in the human subject will ever be referred unquestionably to the partaking of flesh or milk of tubercular animals.”

What evidence then can be adduced on this subject? I will confine myself altogether to the question of the danger from milk of tubercular cows. It is here that the greatest danger lies, and it is here also fortunately that the remedy is the easiest of application.

As regards experiments on lower animals I will only mention those made by Dr. Martin at the instance of the recent Royal Commission.

The animals experimented on were for the most part guinea pigs, but rabbits and pigs were also tried. Whole litters of these animals were obtained so that by keeping one animal out of each litter it might act as a control experiment. If this animal when killed showed any tubercular disease the results of the experiments of the other animals of the same litter in so far as they were positive were not counted.

The milk of cows suffering from tuberculosis may be divided into two classes:—

I. That derived from cows suffering from tuberculosis of

the internal organs but without any tubercular disease of the udder.

II. That of cows with tubercular disease of the udder with or without other diseases elsewhere.

With the first of these classes we have, at present, nothing to do, as all experiments point to the fact that the milk in such cows is not infective.

In the second of these classes the milk was in every case infective, and the experiments made by inoculation in every case gave positive results. As regards feeding, 27 animals were fed with varying quantities of milk from cows with tubercular udders. Of these 27 animals, 19 developed tuberculosis. The brunt of the disease in these cases fell on the abdominal organs, showing the alimentary origin, but in some cases also there was a more generalised infection. The glands about the mouth and angle of the jaw were also found sometimes tubercular. Dr. Martin in speaking of these experiments says:—

“The milk of cows with tuberculosis of the udder possesses a virulence which can only be described as extraordinary. In those cows where the tubercle bacilli were found in the milk, the feeding experiments were uniformly positive as well as the inoculation experiments. It is noticeable too, that a small dose of the milk diluted four times gave tuberculosis to all the animals fed, and that a dose of even 0·05 to 0·1 cc. diluted with non-infective milk was sufficient to produce tuberculosis.”

The results of these experiments are very striking, and indicate in a very marked manner the danger of partaking of milk infected with tubercle bacilli.

Still some deny that there is any right to apply the results of these experiments to man.

Some evidence, though for reasons already stated, it is of necessity very limited in extent, is to hand on this point.

First, cases are recorded of men being infected with tuberculosis and dying as a result of it, through a wound received in making a *post-mortem* examination of a tubercular carcase, thus showing the identity of the disease in men and animals.

But there is one case to which I should wish to refer which answers almost the conditions of a scientific experiment.

This is the case of a daughter of a Dr. Gosse, and is reported by himself. This girl, up to the age of 17, had been quite healthy and had no history of hereditary taint, or predisposition to tuberculosis. Early in 1893 she became ill with more or less vague and undefined symptoms, and died in some ten months. Dr. Gosse performed a *post-mortem* examination, and discovered extensive tuberculosis of the mesenteric glands and abdominal viscera. When trying to find the source of infection in this case Dr. Gosse's attention was drawn to a small farm which he possessed in the country, this he had been accustomed to visit on Sundays with his daughter, and one of her chief delights was to drink milk fresh from the cows there. On examination four out of the five cows were tubercular, and two had disease of the udder.

This most unfortunate case may be taken as almost conclusive proof of the danger of tubercular milk, and gives us every reason to believe that we may justly apply to man the results of the experiments already quoted.

It must not be imagined that there is no danger in having in our dairy yards tubercular cows if the udder is free from disease. They are a source of infection to the other animals, and, further, this disease may occur at any time during the course of tuberculosis, and is not by any means confined to advanced cases. The disease, as a rule, is very insidious in its onset, beginning without pain, and at first, at all events, the macroscopic appearance of the milk is not altered. It is thus quite possible that it may, for a long time, escape the notice of a skilled inspector.

It was with cases of this kind, until within the last few years, that veterinary surgeons had to acknowledge themselves quite unable to deal. The very highest veterinary authorities freely admitted that, by mere clinical examination, they were utterly unable to arrive at a satisfactory diagnosis of tuberculosis in its early stages. Under these circumstances, it was impossible to advocate any extensive measures for the protection of the public. Happily this state of things is now completely changed, and in Koch's tuberculin we have a ready and accurate method of discovering the disease in its earliest stages. The experiments made for the Royal Commission by Professor M'Fadyean on this

subject were far from satisfactory. At that time, in his hands, tuberculin failed to give correct results in about 10 per cent. of the cases tried, and he was unable to explain the cause of this. Fortunately he is now able to account for these cases, and concerning them he has forwarded me the following statement:—

“The cases of apparent failure of tuberculin, in the experiments which I carried out for the Tuberculosis Commission, occurred almost exclusively in cattle that were standing in open sheds in the slaughter-houses, and that had recently been brought there under circumstances exposing them to excitement. Since that date other observers have found that, in these circumstances, tuberculin is not a reliable test; in other words, it is not to be relied upon in the case of slaughter-house or market cattle. Since then I have had abundant opportunities to test its reliability on cattle standing undisturbed in their own premises. In these circumstances I have found it absolutely reliable, and I have the most implicit confidence in it as a test for tuberculosis.”

A statement such as this from one of the highest authorities on veterinary pathology does away with any difficulty which might be raised on the question of diagnosing accurately the presence of disease among dairy cattle.

It is surely not too much to ask that animals so affected should be rigidly excluded from the source of human food supply. To effect this, strict and skilled inspection would be needed, and this would have the further advantage of doing away with many other most objectionable features in our dairy yards.

In considering the danger to the public from this source of contamination of the milk supply it is not my wish to raise a panic or by any means exaggerate its magnitude. To my mind it should be quite sufficient, if even a very small degree of danger was shown to be present, to justify a demand that it should be removed. It cannot be regarded as any answer to these arguments to say that by far the commonest mode of infection of human beings with tuberculosis is by the air passages, and that even the most stringent rules for dairy inspection could only to a small degree lessen the death-rate from tuberculosis. If only ten cases in the year of persons infected with tuberculosis occurred in this way,

or were suspected to occur in this way, it would be ample justification for such a demand.

It should be remembered that this danger chiefly bears on the children of our population. They are the chief consumers of milk in its raw state, and it is in them that the alimentary tract is in the most suitable condition for infection with the bacilli. Among them too we find that the disease, which we may most reasonably suspect to have an alimentary origin, is by a long way most rife. We must further consider how many, if not killed by the disease in early youth, grow up crippled or deformed as the result of it.

It is not any heroic task that the Government are asked to perform, and it surely is not too much to ask that as stringent regulations should be enforced to prevent contamination of milk with tubercle bacilli as are used to prevent its adulteration with pure water.

ART. XX.—*Notes on a Case of Incomplete Abortion.** By HENRY JELLETT, B.A., M.D., B.CH., B.A.O., Dublin University; L.R.C.P.I.; Assistant Master, Rotunda Hospital.

THE following case, involving as it does an important question in midwifery, is, I think, of sufficient interest to warrant this paper:—

CASE.—E. O., aged thirty-seven, 12th pregnancy, was attended by one of the students of the Rotunda Hospital at her own home on November 25 last. When he arrived he found the patient bleeding profusely, and at once plugged the vagina and brought her into hospital. I was called to see the patient immediately after her admission, and found her in an apparently normal condition. Her pulse was about 80, full and strong; her temperature 99° F.; her face was rather pale, but this was her natural condition. In short, she had no symptoms of having suffered from any serious loss of blood. As I had some reason to doubt the aseptic condition of the vaginal plug, I removed it at once, and douched the vagina freely with creolin lotion. There was no blood on the plug, and no bleeding followed its removal. A bimanual examination then revealed the following conditions:—The uterus was completely

* Read before the Obstetrical Section of the Royal Academy of Medicine in Ireland, on Friday, March 19, 1897.

retroverted, the cervix directed upwards towards a point an inch or two above the upper margin of the symphysis; the uterus was about the size of a three months' pregnancy; it was easily replaceable, and no hæmorrhage followed its re-position; the cervix was of normal length, the external os admitted the tip of the index finger, the internal os was apparently closed; there was no portion of ovum or clot protruding from, or lying in, the cervical canal. I came to the conclusion that it was either a case of threatened or complete abortion—most probably the latter. I believed it to be most probably the latter, because there was no hæmorrhage of any kind—not even a drop of blood escaping from the uterus during my examination; also because the internal os was apparently contracted, while the external os remained somewhat dilated. In either case digital or instrumental exploration of the uterus appeared to be contra-indicated; as, if the case were one of threatened abortion, exploration would do harm, while if it were one of complete abortion exploration was unnecessary. I inquired into the nature of the matter that had been expelled from the uterus previous to admission, but could ascertain no particulars concerning it. Accordingly, the patient was put back to bed and I gave directions that she was to be kept as quiet as possible. An hour after this I was sent for hurriedly, and reaching the labour ward I found the patient collapsed and pallid, with a heart so feeble that her pulse was imperceptible at the wrist; she was obviously suffering from extreme collapse. She was bleeding freely, and the bed on which she had been lying contained a pool of blood. The hæmorrhage had come on with the greatest suddenness. The nurse had looked at the patient a few minutes previously to see if she were bleeding, and found that she was not. A couple of minutes later the patient called for assistance, and then the blood was found to be pouring from the vagina. I placed her in the cross-bed position, douched the vagina, and as rapidly as possible explored the uterus with a Rheinstädter's flushing curette, the os not being sufficiently dilated to admit the finger. With some little difficulty I extracted with the curette a piece of placenta about one and a half inches square. As there was still some hæmorrhage, and as I did not dare to allow the patient to lose any more blood, I plugged the uterus as rapidly as possible with iodoform gauze. A couple of times during the operation, which altogether did not take more than ten minutes, I believed the patient to be dead. While the curetting was proceeding the usual stimulants were administered; whisky was given, by the mouth, ether was hypodermically injected, and, as soon as the plugging was finished, the foot of the bed was raised and the

patient kept in this position for some hours. She rallied from the collapse quickly, the plug was removed next day, and the patient left the hospital, though against advice, on the sixth day.

The foregoing are the facts of the case, and I should now like to make a few remarks as to their significance. There seems to me to be but little doubt that this patient would have died if she had not been in a hospital—that is, if medical assistance had not been immediately available. There also seems to be but little doubt that this serious hæmorrhage, with its resultant collapse, would not have occurred if the cervix had been dilated and the uterus explored in the first instance; as, in that case, the portion of placenta would have been discovered and removed. It is obviously impossible that in general practice every patient could have a doctor in as immediate attendance as happened in this case. Are we then, reasoning from it, to say definitely that the uterus must be explored in any case in which a pregnant woman has had an attack of hæmorrhage? I, for one, would be distinctly opposed to any such conclusion being come to. Many patients have an attack of hæmorrhage during the early months, who are subsequently delivered at full time; and many patients deliver themselves of complete abortions without there being the slightest necessity for subsequent exploration of the uterus. If we make it our practice always to explore the uterus we shall undoubtedly cause many unnecessary abortions in the former class of case; in the latter class we shall expose our patient to a very considerable risk of sepsis, for which there will not always be compensatory gain. On the other hand, we shall benefit materially, or perhaps even save the lives of such patients as the one whose case I have laid before you.

There are, I think, three general indications for the exploration of a pregnant uterus in the early months:—

First, if the patient have lost so much blood from the uterus that we consider it undesirable that she should lose any more.

Secondly, if any portion of the ovum have come away, whilst the remainder of it is retained *in utero*—i.e., if it be a case of incomplete abortion.

Thirdly, if the ovum be manifestly dead, but be not expelled—i.e., if it be a case of missed abortion.

In the presence of these indications, our line of treatment is clear; in the absence of them, we adopt the expectant treatment, with the object of clearly ascertaining the nature of the case. Taking the foregoing indications as true, the crucial point lies in the correct diagnosis of the condition of affairs present. How can we decide whether the case be one of threatened, complete, or incomplete abortion? There are three points which help us to arrive at a conclusion—

First, the nature of the matter which has been expelled from the uterus.

Secondly, the total cessation or the continuance of hæmorrhage.

Thirdly, the shape of the cervix.

Of these three, by far the most reliable is the first, if we examine *all* that has come away. By so doing we can, in the majority of cases, decide at once if we be dealing with a case of abortion, and, if so, what particular variety it is. I repeat again, if we be dealing with a case of abortion, as it not uncommonly happens that what we believe to be such a case is in reality a case of extra-uterine pregnancy, the fact that the hæmorrhage has or has not ceased is a very negative sign. If the hæmorrhage continue, we may be sure that the uterus is not empty. On the other hand, its cessation is by no means an absolute proof to the contrary. Then, as to the shape of the cervix—this is altered accordingly as the internal os is contracted or dilated. In a case of threatened abortion, the internal os is usually more dilated than the external, as is shown by the widening of the cervix at the cervico-vaginal junction. In a case in which the ovum has been expelled, the opposite condition is found—i.e., the external os is usually more dilated than the internal. This, also, is a negative sign; as, in some cases, when a portion of the ovum has been expelled the internal os contracts again after its expulsion.

If we apply the foregoing method of diagnosis to the case in point, we find that the first and most reliable guide to the condition of affairs was impracticable, as there was no opportunity of inspecting the matter that

had been expelled. The two last guides had to be relied upon, and they both tended to show that the uterus was empty, in as much as the hæmorrhage had entirely ceased and the internal os was less dilated than the external. I submit, then, that the treatment indicated was rest in bed, but how disastrous and how nearly fatal this treatment proved I have mentioned. Excluding the possibility of a mistake in diagnosis, which might and which ought to have been avoided, I think that one of two conclusions is forced upon us. Either, it is necessary to explore the uterus in every case of hæmorrhage in the early months; or, this case is to be regarded as one which is entirely exceptional, and from which no general principle can be deduced. I have given the reasons on account of which I am opposed to the first conclusion; accordingly, I see no alternative except the second. The vital importance of one point is thrown into strong relief. We should insist that everything which is expelled from the uterus be kept for our inspection, and we should examine such dejecta thoroughly.

ART. XXI.—*Clinical Pictures of Children's Diseases.* By
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(Continued from page 215.)

III. SOME INTRODUCTORY REMARKS ON THE DIARRHŒAS OF CHILDREN.*

THE enormous mortality amongst infants and children from this disorder, and its extreme frequency, are my sole excuses for submitting so very ordinary a subject for your consideration; for I hold the strong conviction that the more frequent the disease, and the more fatal its results, the greater claim it has upon our attention as physicians.

In few subjects have such rapid advances been made as in the pathology of these affections.

Perhaps no more difficult task could be set one than to write a succinct account of diarrhœa and diarrhœal diseases

* Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, April 9, 1897.

of children. I can here only attempt its very brief introduction.

Diarrhœa is truly a symptom, and a symptom only, a symptom usually of disease of the intestine, and of very different pathological states; but in its clinical forms it often assumes the garb of a most dreadful and fatal disorder. It is of this symptom I would speak, and in this short review would allude merely to what we might term the functional cases, omitting such organic diseases as typhoid, or tubercular ulcerations, or other gross structural enteric lesions.

Many may rightly argue that it ought to be banished from our list of distinct diseases; but we have scarcely yet arrived at this pitch of excellence in our pathology.

Infants are very subject to diarrhœa. It appears also to be most frequent amongst children under one year of age.

In England and Wales in 1894 the deaths of children from diarrhœa under five years old amounted to 9,005. Of these, 7,360 were infants under one year; 1,332 occurred during the second year; while in the third, fourth, and fifth years combined, there were only 313. Again, in London, 72 per cent. of all fatal diarrhœas occur in the first year of life.

These figures alone show us that this subject is one that we cannot, in any way, make light of.

It very frequently will be found to complicate other diseases of infancy and childhood, and one often sees cases of chronic diseases swept away in two or three days by a sudden and profuse diarrhœa.

The old idea that diarrhœa was good for children during "teething" has increased the deaths in past years.

One or two preliminary facts, which have been established, must be fully recognised before we can go further.

The alimentary system is a continuous one, composed of a series of organs of somewhat analogous functions. Derangements of one section of the canal can affect portions above and below it, and the organs communicating with it. Some digestive juices and secretions in infancy are practically inert; others are feeble or limited to particular kinds of food. The salivary glands, for instance, are imperfectly developed, and the saliva of children under three months is said to be

very deficient in amylolytic activity. The pancreatic juice is even more deficient. The gastric juice is comparatively unfitted to dissolve cell envelopes as its corrosive powers are weak. The infant appears to digest its milk very largely in the small intestine, while the stomach acts chiefly as a receptacle or reservoir. The stomach is more a receiver in which the milk is coagulated than a truly digestive organ, and the milk passes through the pylorus in curds to be digested further on by the pancreatic juice). We must thus recollect that milk is not truly a liquid diet, for it becomes solid in the stomach. The difficulty of digesting the curd of cows' milk is too great for the infant's delicate digestive organs. Residual undigested casein acts as a foreign body, and gives rise to irritation, and a copious discharge is Nature's effort to get rid of it.

Recognising these facts we can readily understand how indigestion must so frequently become a source of diarrhoea.

In breast-fed children maternal influences have occasionally altered the milk and affected the child. Drugs, improper food, grief and mental influences, temper, or actual illness on the part of the mother, can sometimes act on the infant at the breast.*

* Cf. Dr. Cantley's interesting book on "The Feeding of Infants," chapter VII. Churchill, 1897.—"Our latest investigations on the alterations in human milk show that it may be increased by the ingestion of fluids—milk, gruel, cocoa, broths, &c., also by moderate use of stimulants—ale, porter, Burgundy, and white wines; by improvement in health, by pilocarpin, electricity applied to the breast, and frequent suckling. It is diminished by saline cathartics, belladonna, and atropine. Menstruation may sometimes affect it; but observations on fifty-two children suckled by menstruating women showed less difference in its composition than is found in milk from the same individual at morn, noon, and evening. These conclusions were that menstruation is not necessarily injurious to the child; that colic, dyspepsia, and enteric catarrh should be regarded as coincidences; but that metrorrhagia may retard the development of the child. In the fifty-two cases alluded to only one became dyspeptic, but grew fat, and all the others were perfect. Moderate quantities of alcohol can be taken without any appearing in the milk (e.g., one glass of wine, or half a pint of malt liquor), but excess may profoundly alter it and cause fatal dyspepsia and diarrhoea. Too much stress cannot be laid on the fact that a woman does not need stimulants merely because she is nursing. Colchicum or atropine given to the mother appear to affect the child; the former may produce diarrhoea, and atropine dilates the pupils of the child."

At present we do not know the exact capacity of a child's stomach. From the estimations we possess (chiefly German) it is said at 1 month to contain about 2 ounces,

3 " " " 3 "

5 " " " 4 "

hence it is easy to overfeed a young child.

In the upper classes the food may be unsuitable to the child, but in the lower it is often unwholesome, and poisonous in addition.

We must recollect that the contents of the bowel are practically outside the body physiologically.

A fatal hypersecretion or choleraic flux may be taking place into the lumen of the tube, and the child may die before it is voided *per anum*, before, therefore, it could correctly be called a case of diarrhœa.

Also many prolonged and chronic cases are often kept up by a deficiency in the thorough evacuation of the bowels; for nature appears to favour the frequent emptying of the infantile intestine.

The infant is only constituted to digest its mother's milk up to the time it gets its teeth. The amylolytic secretions which digest starchy food are not fully active in the first few months of life; they are not so much required. Farinaceous food, therefore, unless most carefully prepared and administered, ferments and irritates the mucous membrane of the stomach and intestines, the child vomits, and the bowels discharge their contents. In health children are often practically fed on raw starch, which they cannot digest; while in disease its administration under nine months is almost inexcusable.*

There is no form of carbo-hydrate present in human milk except lactose. Almost all condensed milks and patent foods in the market contain an excess of carbo-hydrates—generally either starch or cane sugar. Nearly all the infants fed on these foods become fat, flabby, unwieldy, and rachitic, and from the intestinal fermentation suffer from offensive diarrhœa. Anæmia, scurvy, and rickets are also often produced by them.

* We may take the appearance of six teeth as an indication that the child may have food of a starchy nature.

Thus, unwholesome, improper, excessive, or irregular feeding is responsible for an enormous number of these diarrhoeas of children. It may, of course, occur at any period of the child's life, but is most frequent during the first year. It may be a very acute and suddenly violent disorder, and can occur at any time or season of the year. This species of attack then forms one large class of cases which is doubtless very familiar to those who have had any experience of children.

When, however, this mechanical irritation is long continued, when this indigestion from errors of diet has become almost habitual, and when the unfortunate child is so placed that scarcely a meal is correctly provided for it, when it grows up sharing the sometimes indigestible fare of its elders, eats forsooth anything with which it may chance to be in contact, then this intestinal indigestion becomes an essentially established condition—a chronic process. The repetition of these errors produces persisting irritation of the intestine, and a wretched state of chronic diarrhoea is established.

It would be useful to find out whether “teething” actually causes diarrhoea or not. At this time children get hold of the most unwholesome things to chew and “cut their teeth on,” and in these substances lie many of the cases we hear of.

It is most remarkable that during times of great distress, as during the Siege of Paris, or the Lancashire Cotton Famine, the infant mortality is largely reduced, while the adult mortality is increased. The explanation is that from the scarcity of food the mothers are compelled to suckle their children, and hence the great source of danger is abolished.

Infants' food is very liable to become contaminated.

The children of the poor eat the most unwholesome things, and a vast amount of dirt along with them.

The fungus of thrush (*Saccharomyces albicans*) is capable of directly producing intestinal disorders and diarrhoea. It is very liable to attack the mouth. This organism is said to decompose milk like *Bacterium lactis*, and form lactic acid, and, according to some, butyric and formic acids also. Dr.

Forbes Ross has directly produced thrush from the sour milk of an unclean jug; also, he has produced it from the fæces of some cases of diarrhoea; but it is a curious fact it was only in cases where the nates were excoriated that he was able to develop this fungus.

Why are rickety children so often liable to diarrhoea? Some say these children sweat more and hence are easily chilled, but the bad feeding which produces rickets may, I think, cause diarrhoea at the same time.

Another enormous class, and totally distinct category, of cases arises in a much more complex fashion. Every summer and autumn thousands of children are swept away by profuse and uncontrollable watery discharges from the bowels.

Sanitation affects children markedly; air-space, ventilation, drainage, situation, general home cleanliness, and water and milk supply.

It has long been thought that the filth and putrefaction of towns, animal exhalations, with atmospheric changes, caused this "summer diarrhoea" amongst children. Until recently, however, we got no further. How they operated was not fully explained. Dr. J. B. Russell has greatly aided us by his investigations and statistics in Glasgow of deaths occurring from this disorder. He finds that "the death-rate from diarrhoea of children under 5 years of age is now (1890-'94) exactly what it was 30 years ago (1860-'64), while the death-rate at the age of 5 years and upwards is less by more than one half." Improved water supply, therefore, in Glasgow has not influenced the infantile diarrhoeas, though it has lessened by half those occurring over 5 years of age. In fact, the water-drinking school children have been saved, while the milk-fed infants still die in large numbers.

It is in July, August, and September, when the air is very hot, and decomposition going on in organic materials, that this summer diarrhoea is most prevalent, and that its mortality is highest.

In 2,000 cases of death amongst children from this cause* it was found on investigation that only 3 per cent. were breast-fed, revealing a most extraordinary immunity amongst

* Emmett Holt. Cf. Ashby and Wright, on Diseases of Children. 3rd Ed., 1896, p. 87.

infants nursed by their mothers. These diarrhoeas, therefore, are found to affect artificially-fed children—97 per cent. of these 2,000 cases having been so brought up. A most valuable return of statistics of infantile diarrhoea was published last year (1896) by Dr. Niven, of Manchester. Through his kindness I am enabled to call attention to the following remarkable figures:—

Out of 500 deaths only 15 were being breast-fed when taken ill.

The relative chance of dying from diarrhoea of hand-fed, as compared with breast-fed children, was as—

88 to 1 under 1 month old,

95 to 1 at 1 month,

And 123 to 1 at 4 months.

It is striking that these figures exactly coincide with Dr. Emmett Holt's finding in America—i.e., 97 per cent. being breast-fed—while Minert, in Bavaria, finds 96 per cent. in his country.

Bacteriological investigators stepping in at this stage have since furnished us with a clue to the understanding of many of these conditions.

First of all they tell us that the foetal intestine is *sterile*, but that a few hours after birth bacteria find an entrance to it. In the healthy nursing child two species of bacteria are said to be constantly found in the intestines. These are the *Bacterium lactis aerogenes* which inhabits the small intestine, and the *Bacterium coli commune* which lives in the colon and lower part of the ileum.

In cases of summer diarrhoea the intestinal contents are found to swarm with many species of bacteria, and some of these are very poisonous. These organisms grow and multiply outside the body, and are abundantly disseminated when the temperature of the air is over 60° F. They grow best in milk.

Unfortunately, milk is at this period of its life the infants' chief or only food; also, it is the very best cultivating medium in which these poisonous organisms can flourish.*

It is thus easy to understand how the hand-fed infant so

* Lord Lister says—"I once met with a bacterium, but only once, that would not live in milk."

frequently falls a victim to summer diarrhœa; and that this disease is almost confined to this period of life.

Human milk is a sterile fluid. Cows' milk is sterile only when obtained from the udder of a healthy cow by a trocar and cannula, but is usually acid when reaching the consumer, and is crowded with micro-organisms.

The milk obtained from the milkshops in London last year (1896) contained from 848,400 to over 8 million micro-organisms per cubic centimetre.

It has been found then that these summer diarrhœas are directly produced by infected milk, and some of these poisons have been isolated.

The absence of more positive data on these points is explained by the difficulty of reaching the small intestine; it is cut off from direct observation, and the putrefaction in the large intestine obscures the results.

Dr. Ballard in his supplement to the Report of the Local Government Board in 1887 concluded that :—

1. Summer diarrhœal mortality closely follows the indications of the 4-foot earth thermometer; only commencing definitely when the T. is over 58° F., and is highest at the highest mean weekly reading of this thermometer.
2. It is associated with unsanitary conditions.
3. Fatal diarrhœa is immensely influenced by the food which the infant takes immediately before an attack.
4. In the food the micro-organisms find a nidus and pabulum convenient for their development, that from the food, as from organic matter in soils, they can manufacture a virulent chemical poison; and that this chemical substance is, in the human body, the material cause of epidemic diarrhœa.

It is exceedingly probable then that these diarrhœas are due to bacteria in the superficial layers of the earth.

In an investigation conducted by Dr. Cameron, in Leeds, into 153 cases of fatal diarrhœa in children, for 6 weeks ending September 30, 1893,* it was found—

That 80 per cent. of the cases occurred in houses with no through draught;

That the mortality is the largest amongst bottle-fed

* Cf. Dr. Cautley. Op. cit. P. 7.

children, smallest in breast-fed children, and is larger during the first 6 months of life than during the second 6 months.

This subject of classifying diarrhoea has for generations greatly perplexed medical observers. It would appear now that as we are getting a little more light thrown upon these disorders they will become more simplified. A strictly anatomical classification is impossible. Those who have had most experience have failed to arrive at one, *because* there is no relation in any case of diarrhoea between the severity of the symptoms and the appearances found after death. Many forms are described, but there is no morbid anatomy to correspond. The severest symptoms, and the most fatal cases, frequently exhibit the fewest *post-mortem* lesions (*cf.* cholera); while a child, who during life has had but little diarrhoea, may reveal the most intense structural mischief in the intestines.

Given a typical case of death from diarrhoea, no one can tell what he will find in the intestine, or whether he will find any morbid change.

Therefore, no classification can be formed from morbid anatomy.

The most useful one is that I have shortly sketched, viz. :—

I. *Dyspeptic*, and

II. *Infective*.

It is based on the ætiology of these disorders, as far as we know them at present, and is a great help.

These types have been greatly confused by different writers, and a long list of vague pathological names have in past times been attached to them which are certainly not now warranted by *post-mortem* examinations, and cannot be borne out by facts.

Thus the names—

Muco-enteritis,

Entero-colitis,

Inflammatory diarrhoea,

have, in many cases, no pathological entity.

This ailment may be of all grades of severity; and between these several forms no very sharp line of demarcation can be drawn.

Seeing that in nearly every case is to be found the

administration of some patent food with, perhaps, milk in various stages of decomposition from an apparatus impregnated with toxic germs, we can easily understand that fermentative changes are present in most instances. Deposits in dirty bottles teem with organisms. Tubes have been a fertile source of diarrhœa, and are often covered with a layer of decomposing "must."

A child with dyspeptic diarrhœa is very liable to contract the more infective forms, for its intestine is like a culture tube that is left open to many kinds of bacterial invasion.

Throughout the books we have endless forms described, resulting in a *melée* of names which confuse us. Many merely signify the character of the stool that is voided by the child—a description of the motion and not of the malady—while others are anatomical and, hence misleading. Thus:—"Ulcerative diarrhœa" is supposed to indicate ulceration proceeding in the intestine. "Nervous diarrhœa" is produced, apparently, solely by causes acting through the nervous system—fright, anxiety, &c.—and, certainly, with some cases, as in adults, the nervous system is intimately associated. "Lienteric diarrhœa" signifies that cognisable and particulate fragments of food are passed unchanged from the bowel. It is usually seen in children about five or six years old. The food produces an increased peristaltic action on the part of the intestine, and it often occurs at the end of a meal. The child complains of uneasiness in the belly, with griping, and this is quickly followed by a loose motion of undigested food. "Catarrhal diarrhœa" simply means that there is mucus in the motions.*

* Some years ago Professor Nothnägel investigated over 1,000 stools from cases of so-called catarrhal diarrhœa containing mucus, with a view to ascertain where the mucus came from, and hence the seat of the malady. His conclusions were that mucus passing from high up in the small intestine (jejunum and ileum) is invisible to the naked eye. It is disintegrated and intimately mixed through the motion, and the stools are passed without pain or straining. Under the microscope, however, islets or globules of mucus can be abundantly seen, and, maybe, bile stained. A cursory examination, therefore, of the stool may not reveal any mucus whatever, although catarrhal conditions of the small intestine be actually present. Jaundice would, of course, point to the duodenum; but this is rarely seen in children. The colon, on the other hand, discharges its mucus visibly, with a pulpy motion. The sigmoid flexure voids it pure and unadulterated, while the rectum passes it surrounding scybala and accompanied by tenesmus and straining.

"Dysenteric diarrhoea" signifies that it resembles dysentery in the passage of lumps of mucus stained with blood. "Croupous diarrhoea" means that there are shreds of mucous membrane found in the stools at each motion of the bowels. "Mucous diarrhoea" is similar to catarrhal diarrhoea, and merely describes a mucous stool. "Febrile diarrhoea" and "Inflammatory diarrhoea" sufficiently explain the meaning of the terms, but convey no information as to the disease.

The frequency of evacuation is not a true guide to the condition of the child. It is often misleading. The case of cholera infantum which ceases to evacuate its bowels may be in extreme danger. It has been said that frequency of evacuation is not always a necessary symptom of diarrhoea. It is a natural therapeutic method of cure, and is strongly indicated. It is not the evacuation *per se* that is the evil condition to be treated, but the irritation and contraction of the bowel, and the hypersecretion of fluid into it.

Diarrhoea produces an alarming fall in blood-pressure in children. The loss of water may quickly collapse them, causing absorption of moisture from the tissues, shrinking of the limbs, and collapse of the features, depressed fontanelle, and a weak and failing heart. Intestinal irritation in children also profoundly affects the nervous system; and this has been so marked as to have often been mistaken for organic cerebral disease. Hence, in past years, the origin of the term "hydrocephaloid."

In young children the liver is very large, and, perhaps, the bile is of comparatively more value than in adult life, and the action of mercurials in these cases in part due to their stimulating action in producing a copious flow of this secretion.

Regarding the pathology of "green diarrhoea," there seems to be no consensus of opinion. Five different micro-organisms have each been named as producing it, and it is also attributed to a deficiency of bile leading to the formation of biliverdin.

Finally, this disorder in children, whatever form it may take, should never be made light of. Every case should be strictly investigated after it has existed for any length of time. Any kind of diarrhoea must be guarded against in

summer. We must never lose an opportunity of examining the stools. Again, in children, diarrhoea sometimes carries off many noxious materials, and we should reflect on this before prescribing for the case.

In all forms the changes found after death largely depend on the length of its existence.

The already thrown-off material must be at once removed from the bowel.

The infantile alimentary canal has been recently very well likened to an ordinary surgical sinus, open at both ends, subject to interruptions here and there, into which sinus is constantly being introduced foreign material in the shape of food. It is constantly under the influence of septic organisms. Its walls are subject to the same conditions as regards rest and irritation, septic fermentation, accumulation of its normal contents and discharges, and their liability to undergo decomposition. Likewise it is subject to many of the same principles of the truest antiseptic treatment—

1. Thorough asepsis and cleanliness.
2. Free drainage.
3. Freedom from irritation, and perfect rest.

These three principles summarise the indications for our treatment of many diseases of the infantile intestine; for since our knowledge of these ailments has increased, our treatment has correspondingly varied, and is now quite different from that formerly in vogue.

(To be continued.)

SYMPHYSEOTOMY.

PROF. AVERS, of New York, contributes a paper on symphyseotomy to the *Medical Record*. He tabulates all cases occurring since 1886 where antisepticism was firmly established, and includes only those in which the patient had not been more than 24 hours in labour. There were 111; 6 mothers died; 112 children were born, of whom 16 died; the average duration of labour was 16 hours. His table gives a maternal mortality of 5 per cent.; but, says the Professor, "it is no exaggeration to say that the essential mortality of symphyseotomy is not much over one per cent. I believe the operation is slightly more dangerous than induced labour."

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

A Text-Book of Special Pathological Anatomy. By ERNST ZIEGLER. Translated and edited from the eighth German Edition by DONALD MACALISTER, M.A., M.D., and HENRY W. CATTELL, M.A., M.D. Sections I.—VIII. New York : The Macmillan Company. 1896. Pp. xxxii.—575.

PROFESSOR ZIEGLER'S text-book has gained such a popularity and is so well known, that little more is necessary than to announce the appearance of a new edition of Dr. MacAlister's excellent translation. Since the publication of the second edition of the English text many editions of the German work have appeared, so that in the present issue the text has been entirely re-written and the bibliographical and other supplementary portions have been recast. By curtailing the bibliographical references, and confining them only to the most important and recent works, much space has been gained, and the work, which is growing larger and larger in each successive edition, has been kept within limits.

The subjects treated of in the present volume are: The blood and lymph; the vascular mechanism; the spleen and lymph glands; the osseous system; the muscles and tendons; the central and peripheral nervous systems and the skin. The second volume, dealing with the liver, pancreas, the respiratory and genito-urinary systems, the eye and the ear, is in the press; while it is intended later on to publish a translation of the first volume on general pathological anatomy, from the latest German edition.

It is, as we have said, quite unnecessary to dilate on the numerous excellences of this book. The clearness, brevity, and, at the same time, completeness of the descriptions, and the number and extraordinary beauty of the drawings have made it perhaps the most popular text-book of pathology

which has ever appeared. To the histological illustrations there have been added, in the later editions, many figures illustrating naked-eye appearances, and although they can hardly be said to equal in beauty the microscopic drawings, yet many of them are admirable, and all of them are highly graphic and illustrative of the appearances they are intended to show. This is particularly the case in the sections on the bones and on the nervous system.

The translation is deserving of the highest praise. The work has now an international character, as Dr. MacAlister has associated with him Dr. Cattell, of Philadelphia. The translators have not only produced a work which reads like an original English text, but they have edited and made such alterations in the original as to adapt it to the uses of English readers, while at the same time preserving all the many excellences of the German original. The book is one which cannot be too highly recommended to all medical readers, whether pathologists by profession or not. It is now universally recognised that no diagnosis is possible without a knowledge of pathology, and that no treatment can be considered rational which does not rest on a pathological basis. The importance of pathology as a subject of medical study is becoming more and more evident day by day. Nowhere can all the essentials of pathological anatomy be more easily and pleasantly acquired than from the work of Ziegler, which is now accessible to all readers. The volume is brought out in the admirable style which characterises all the works published by the Macmillan Company. The copious index, extending over thirty-two pages of double columns, adds largely to the usefulness and value of the text.

Exercises in Practical Physiology. By AUGUSTUS D. WALLER, M.D., F.R.S. Part I. Elementary Physiological Chemistry. By AUGUSTUS D. WALLER and W. LEGGE SYMES. London: Longmans, Green, & Co. 1897. Pp. 24.

THIS little work consists of a number of practical exercises in physiological chemistry—of a very elementary character, but well suited for the use of beginners. Each page is printed in two columns. In one, the directions are given for the

performance of the experiment, in the other, the result which should be obtained is stated. In some of the sections a third column is added, giving the inferences which may be drawn from the experiment.

The order in which the subjects are taken is that usually adopted. 1. The proximate principles—proteids, albuminoids, fats, carbohydrates. 2. Important articles of diet—bread, potatoes, butter, peptone, beef-tea made in different ways. 3. Tissues and fluids of the body; extracts of liver, brain, muscle; bone ash; blood, milk, urine, bile, saliva, gastric juice, pancreatic fluid, intestinal juice. 4. Hints for the qualitative examination of solids and fluids containing substances of physiological interest. 5. Quantitative estimations of urinary constituents; sodium chloride, by Mohr's method; phosphoric acid, by uranium method; sugar, by Fehling's method; and urea, by Dupré's modification of the hypobromite method.

On the whole, the exercises are good, but would be much more instructive if some explanation of the different reactions were added. Students are too ready to accept facts without inquiring into their explanation, and the habit of asking the reason why is one which cannot be too much encouraged.

Again, many of the sections appear to us to be very meagre. Why, for instance, are carbonic acid and phosphoric acid the only substances looked for in bone ash? Why, in the study of beef-tea, is no account taken of the extraction of the proteids of meat by dilute acid or saline solution—very practical questions, as well as of physiological importance.

As to the English University style of question—"Solution A contains two substances of physiological interest. What are they?"—it has always seemed to us as one almost impossible to attempt, since there is hardly anything from protagon down to water which is not of physiological interest. Of course, if the substances given are confined to the list indicated in these tables or in Professor Halliburton's exercises, the detection is not difficult, but such a question given without any limitation is not, in our opinion, one calculated to test the student's knowledge. We have heard of a case in which muscarin was given. If muscarin, why not any

other poisonous alkaloid, why not any poisonous inorganic substance, why not anything organic or inorganic which may injure or serve the animal organism? So that the question becomes so wide as to be practically insoluble.

A Contribution to the History of the Respiration of Man. By WILLIAM MARCET, M.D., F.R.C.P., F.R.S. London: J. & A. Churchill. 1897. Imp. 8vo. Pp. 116.

THIS volume contains the Croonian lectures delivered before the Royal College of Physicians in 1895. The following is the author's summary of the matters dealt with in the four lectures:—

“In the first lecture the oxygen of the atmospheric air was shown to be the main agent of life, and Hermann's discovery that oxygen is an integral part of the tissues was appealed to, with the object of explaining the remarkable vitality of certain organisms, such as seeds, and their capability of resuming the function of life after an unlimited period of complete repose. Next came an attempt to explain that it is not the oxygen of the air which, by offering itself to the tissues, produces the phenomena of metabolism, but living tissues call upon oxygen to effect the changes they undergo. The influence of tissues as the prime movers in the matter was shown by the action of cold, which first increases their vitality, and consequently the demand for oxygen, though when excessive it excites an influence the reverse in its character. Muscular exercise invariably tends to the production of CO_2 in excess, and the phenomenon was afterwards appealed to as an illustration of increased molecular vibration; this led to some remarks on the influence of walking exercise in the act of ascending, on the temperature of the body; it was concluded that with some people there is a slight rise, and with others a slight fall of temperature.

“The second lecture was prefaced with a short allusion to some of the principal investigations on human respiration; then followed the history of the different forms of breathing, which were illustrated by tracings taken directly from the person under experiment. Attention was also drawn to the absorption of oxygen in the body, and a number of analyses were quoted showing to what extent this absorption takes place.

“The third lecture was given up entirely to the influence of volition on respiration. It was shown that volition without response towards any kind of muscular exercise, including forced breathing,

is attended with increased pulmonary ventilation; and also with the absorption of an excess of oxygen, and that this oxygen is necessary towards the exercise of volition; if necessary to volition it must be taken up by the motor centres of volition. A remarkable effect on the development of muscular force by this charging of the motor centres with oxygen was found to take place. It was also shown that on the return to the state of physical and mental rest, after volition had been exerted with and without response, a pause or state of apnoea was invariably produced; but this apnoea failed to appear when volition or attention was forcibly directed to respiration in deep breathing. Finally, an experiment was described in which, volition being tired out, the muscles refused to work, this experiment being in keeping with Mosso's remarkable discovery.

"The fourth lecture was devoted first of all to an account of the influence of climbing on the respiratory changes, and on the state of the respiratory phenomena at high altitudes. Next, air re-breathed under atmospheric pressure was considered, and it was shown that when re-breathing the same air over and over again there is an accumulation of CO_2 in the body, which is quickly expired when fresh air is breathed. This was followed by statements from Paul Bert and quotations from Mr. Glaisher, showing the effects of low atmospheric breathing towards checking the exercise of volition. The lecture was concluded with an allusion to asthma, and to a method of treatment depending mainly on the improvement of the respiratory phenomena by what may be called a process of training."

About half the volume consists of a supplement, in which the methods of investigation are described and tables of analytical results are given. The text is illustrated by numerous plates of apparatus, diagrams, and respiratory tracings. The book, it will be seen, deals with many interesting subjects, and is a valuable contribution to the physiology of respiration.

The Cell in Development and Inheritance. By EDMUND B. WILSON, Ph. D. New York: The Macmillan Company. 1896. Pp. 371.

SOME little time ago we had the pleasure of noticing Professor Wilson's beautiful atlas of the fertilisation and karyokinesis of the ovum, published with the co-operation

of Dr. Leaming, and we have now to call the attention of our readers to another remarkable and important cytological work by Professor Wilson, which, like the atlas, is one of the Biological Series of the Columbia University.

The present volume, we are told, is the outcome of a course of University lectures delivered in 1892-3, in which an account was given of recent advances in cellular biology, and the steps were traced by which the problems of evolution have been reduced to problems of the cell.

The publication has been delayed by the necessity for the re-examination of the history of the fertilisation of the egg, made necessary by Fol's description of the "Quadrille of Centres." According to this, each germ cell, spermatozoon and ovum, contributes two centrosomes, or one which divides, so that four centrosomes result. "The daughter centrosomes thus formed conjugate two and two in such a manner that each of the centrosomes of the cleavage spindle is formed by the union of a centrosome derived from each germ cell." This view, which was supported by the observations of Guignard on the lily, and those of Conklin on the marine gasteropod *Crepidula*, has been refuted by the researches of the author, of Boveri, and of Mathews. These writers have shown that "in the echinoderm, as in so many other cases, the egg centrosome disappears. The cleavage amphiaster arises solely by division of the sperm-aster, and the centrosome of the latter is derived, not from the tip of the spermatozoon, as asserted by Fol, but from the middle piece, as already described."

The work is divided into an Introduction and nine chapters. In the Introduction a historical sketch of the cell theory, and of its relation to the evolution theory, is given. In Chapter I. we have a general sketch of the cell. The author inclines to the fibrillar theory of protoplasmic structure, but somewhat doubtfully. In Chapter II. a masterly account is given of the phenomena and mechanism of cell division, both by mitosis and by direct processes. The much-disputed question whether the centrosome gives the primary impulse to the division of the cell by its own divisions is answered in the negative, "for there are several

accurately determined cases in which the chromatin elements divide long before the centrosome, and it is now generally agreed that the division of chromatin and centrosome are two parallel events, the causal relation between which still remains undetermined."

Chapter III. is devoted to a description of the structure, origin, and growth of the germ cells, the ovum and spermatozoon. Nowhere will a more admirable account be found than that here given of the extraordinarily complicated structure of the spermatozoon, which recent research has demonstrated.

Chapter IV. is on the fertilisation of the ovum. The process both in plants and animals is considered. It is shown that the ovum loses its centrosome, which loss is regarded as a provision to guard against parthenogenesis, and to ensure amphimixis, while the paternal element loses nearly all its cytoplasm, but carries with it into the ovum the centrosome. "The equivalence of the germ cells is thus finally lost. Only the germ nuclei retain their primitive morphological equivalence. Hence we find the essential fact of fertilisation and sexual reproduction to be a union of equivalent nuclei, and to this all other processes are tributary. The substance of the germ-nuclei, giving rise to the same number of chromosomes in each, is equally distributed to the daughter cells, and probably to all the cells of the body."

Chapter V., one of the most interesting in the volume, is on the reduction of the chromosomes which occurs in the formation of the ovum and spermatozoon. The different views which have been held as to the origin of the tetrads are well discussed; but while hesitating to accept the type which has been described in *Ascaris* and the plants, in which double longitudinal division of the chromosomes is said to occur, the author admits that the problem of reduction still wants full solution.

In Chapter VI. the more important problems of cell organisation are considered, while those of cell chemistry and physiology are dealt with in Chapter VII. In Chapter VIII., on cell division and development, such subjects as the geometrical relations of cleavage, the

polarity of the egg, and the energy of division receive consideration. Chapter IX. gives an admirable summary of the theories of inheritance and development.

The modern researches on the cell have developed not only a new science, but also a new language. Many of the terms cannot be familiar to general readers, for whom as well as for experts, this work is intended. The author has done good service in giving a carefully prepared glossary explaining the meaning and derivation of the new words met with in cytological literature.

A feature of the work is the very copious references to literature. Not only is there a short bibliography given at the end of each chapter, but at the conclusion of the volume a general literature list of great extent, and admirably arranged, greatly enhances the value of the text.

There are 142 beautifully executed figures, many of which are original. To say that the work is published by the Macmillan Company is to say that the manner in which it is brought out leaves nothing to desire.

Nowhere else in the English language is there such a complete and, at the same time, such a readable account to be found of the cell and the part which it takes in inheritance. The work of Professor Wilson cannot be too warmly recommended to all those who are interested in these fundamental biological problems.

Atlas of Clinical Medicine. By BYROM BRAMWELL, M.D., F.R.C.P. Edin., F.R.S. Edin.; Assistant Physician to the Edinburgh Royal Infirmary, &c., &c. Volume III. Part III. Edinburgh: T. and A. Constable. 1897.

THIS Part completes the third volume of Dr. Byrom Bramwell's "*Atlas of Clinical Medicine.*" It contains a much larger number of plates than was originally promised to the subscribers, and in an accompanying note the author tells us that he has still a large number of plates in hand which he hopes he may have an opportunity of issuing at some future time. From this remark we are sorry to gather that with the issue of this fine fasciculus Dr. Byrom Bramwell brings to a close his masterly work—we would express the hope

that at no distant time he may resume his self-imposed task and give to the medical world the aftermath of his ripe experience in the great field of clinical medicine.

The author regrets the long delay in issuing this, the concluding, Part of the "Atlas." It has been chiefly due to the fact that some of the cases of pseudo-hypertrophic paralysis and myopathic atrophy recorded in the text proved fatal one after the other, and the exhaustive microscopic examination of the tissues occupied, in the midst of other work, long periods of time.

The topics discussed in this Part, in addition to pseudo-hypertrophic paralysis and progressive muscular atrophy, are—cyanosis and congenital heart disease, a remarkable case of calcareous degeneration of the heart and other organs, chlorosis, pernicious anæmia, and alopecia areata. There are no fewer than fifteen plates, including three illustrating acute, chronic, and senile dementia, respectively. This brings the total number of costly plates in the Atlas up to one hundred.

Taking it all in all, the 'Atlas of Clinical Medicine' is a splendid contribution to medical literature, and does infinite credit to the Edinburgh School of Medicine, of which Dr. Byrom Bramwell is so worthy a representative.

The Principles and Practice of Medicine. Designed for the use of Practitioners and Students of Medicine. By WILLIAM OSLER, M.D., F.R.C.P.; Professor of Medicine in the Johns Hopkins University, and Physician-in-Chief to the Johns Hopkins Hospital, Baltimore. Second Edition, thoroughly revised. Edinburgh and London: Young J. Pentland. 1895. 8vo. Pp. 1143.

It is not altogether our fault that a notice of this admirable text-book has been so late in appearing. Although the title-page bears the date "1895," it was not until the end of January, 1897, that a copy for review reached our hands.

Beautifully printed, written in clear, terse, and often eloquent English, and well illustrated, Dr. Osler's work must ever take a foremost place among text-books on Medicine.

This Second Edition has been improved in many respects without being unduly enlarged. The article on typhoid

fever has been revised to date, although of course no allusion is made to Widal's method of diagnosis. Ehrlich's diazo-reaction is, however, mentioned with faint praise. It was present in 136 out of 196 cases examined at Dr. Osler's "clinic." In the section on "Malarial Fever" full justice is done to Laveran's observations on the *Hæmatozoa malarie*. The whole question has been recently considered by Dr. Osler's assistants, Dr. W. S. Thayer and Dr. Hewetson, in an elaborate report on the malarial fevers of Baltimore. Their monograph was published in the fifth volume of the *Johns Hopkins Hospital Reports*.

The section (XV.) on "Diphtheria" has been re-written and much extended. In it Dr. Osler reserves the term "diphtheria" for an inflammation of a mucous membrane or integumentary surface characterised by necrosis and a fibrinous exudate caused by the Klebs-Löffler bacillus. Under the term *diphtheroid* may be grouped those membranous inflammations which are not associated with that micro-organism. As in a great majority of cases the *Streptococcus pyogenes* is the active organism the term "*Streptococcus diphtheritis*" is often used. The diphtheroid inflammations are particularly prone to develop in connection with the acute fevers. Dr. Osler evidently thinks highly of the antitoxin treatment of the true disease, although he admits that a much larger number of cases must be treated over a long period before final judgment can be reached.

The account given of bubonic plague is very short. It occupies only one page, half of which is devoted to a description of Kitasato's bacillus. This specific micro-organism was discovered in the short but severe outbreak which occurred at Hongkong in May, 1894. Needless to say that this terrible disease deserves a longer notice, regard being had to the disastrous Indian epidemic of the past winter.

Under the heading "Infectious diseases of doubtful nature," we are glad to find "febricula" or "ephemeral fever" included. The specific nature of this affection we have long recognised in spite of Murchison's views on the subject. We also agree with Dr. Osler in the opinion that one group of febricula represents a mild or an abortive type of one of the infectious

fevers. "Foot and Mouth Disease" (epidemic stomatitis or aphthous fever) is briefly described in this same section (XXXI.); but we find no mention, either here or elsewhere in the work, of Pfeiffer's "Drüsenfieber," so named by him in 1889, but also called "febrile polyadenitis" and glandular fever in children" (Dawson Williams in the *Lancet*, January 15th, 1897). This fever is a nosological entity which appears deserving of consideration and observation.

Among the notable alterations which have been made in the present edition is a new general introduction to the section (VIII.) on Disease of the Nervous System. In it the recent studies of Golgi, Ramon y Cajal, Waldeyer, Berkeley, Van Gehuchten, and others, have been incorporated. In the section (X.) on the Intoxications the author refers to the investigations of Gosio, confirmed by Sanger, which go to show that arsenical poisoning may sometimes be due to the action on arsenical organic matter in wall-papers of several moulds, such as *Penicillium brevicaulis*, *Mucor mucedo*, and so on. In moisture, and at a temperature of from 60° to 95° F., a volatile compound is set free, probably "an organic derivative of arsenic pentoxide" (Sanger). The ingestion of minute doses of this derivative time after time may explain the chronic poisoning from fabrics and wall-papers. Speaking of arsenical poisoning, Dr. Osler mentions a clinical fact which is worth remembering. A patient with Hodgkin's disease under his care developed multiple neuritis after taking thirty-three fluid drachms of Fowler's solution within seventy-five days, during which time there were fourteen days on which the drug was omitted.

Section XI., on Diseases due to Animal Parasites, opens with an interesting account of psorospermiasis. Dr. Osler believes that psorosperms probably play a more important rôle in human pathology than has hitherto been thought.

There are many other features in this work to which we would fain draw attention, but the foregoing remarks will sufficiently indicate its scope and value as a reliable textbook of Medicine. There are scarcely any misprints or blemishes in spelling. "Empyæma," however, occurs at page 129, although ἐμπύημα is met with more than once in the writings of Hippocrates. "Aneurism" is less

correct than "aneurysm," while anchylostoma (pages 289 and 1,090) is certainly wrong, the word being derived from *ἀγκύλος*, *crooked, curved, or rounded*.

In conclusion, we heartily recommend Dr. Osler's book to practitioners and students of medicine. In its pages will be found a mine of medical information and a vast storehouse of medical knowledge.

Army Medical Department Report for the Year 1895. With Appendix. Volume XXXVII.

THE average annual strength dealt with in this Report was 200,681. Calculated on a strength of 204,592, "which includes detached men," the admission-rate was 993·20, the death-rate 8·16 per 1,000. The public, unprofessional as well as professional, is slowly waking up to a conviction that "something must be done"—and something must be undone—in order to destroy the pre-eminence in venereal diseases of the British Army. Year after year we and our medical contemporaries draw attention to this scandal—so far without practical effect. Once more we state the facts. The mere statement ought to be sufficient. We quote the following, referring to the United Kingdom, from the Report:—

"Taking together all forms of venereal diseases the admissions numbered 17,346, and the constantly sick 1525·52. The total ratios, therefore, were for admissions 173·8, and for constant inefficiency from these diseases 15·28 per 1,000, showing decrease as compared with the foregoing year of 8·6 and 1·14, and below the average rates for the preceding nine years by 42·0 and 1·99 respectively. England and Wales alone gave admission and constantly sick rates of 186·6 and 16·65, as compared with 197·5 and 18·19 for the previous year, and with 228·2 and 18·55, the preceding nine years' average. The ratios in Scotland were 130·1 and 9·19 per 1,000, below those in 1894 by 41·7 and 2·93, and also below the average rates by 29·7 and ·92 per 1,000. In Ireland the total admission ratio was 141·0 and the ratio of constant inefficiency 11·98 per 1,000, both being higher than in the previous year by 1·3 and ·09, but in comparison with the average rate there is a decrease in the admission ratio of 47·7 and in that of constantly sick of 2·69 per 1,000."

Turn we to India, with an average strength of 68,331

"warrant officers, non-commissioned officers and men." In India, it will be remembered, the local authorities are prevented by House of Commons' intermeddling from adopting effectual means for the staying of the plague. Here is the result:—

"Taking all these forms of venereal disease together, the ratio of admission amounts to 536·9 per 1,000, which is more than that of the preceding year by 25·2, and in excess of the average rate by 127·6, while for constantly sick the ratio was 46·31, representing a loss of 3164·84 men to the efficient strength of the force from these diseases, higher than the rate in 1894 by 3·17, and above the average by 14·39.

"The Principal Medical Officer states that at some stations these diseases were extremely prevalent, the following being instances of high admission rates for all forms of venereal diseases combined:—Nowgong, 1013·5; Cawnpore, 967·6; Indore, 901·0; Calicut, 887·9; Dinapore, 847·0; Shahjahanpur, 834·4; Jhansi, 816·8; Malapuram, 816·3; Shwebo, 785·9; Poona, 775·2; Fyzabad, 766·0; Ranikhet, 746·8; Bareilly, 716·2; and Mhow, 703·2. There were, in addition to the above, 20 other stations at which the admission rate exceeded 600 per 1,000 of strength. Lamentable as are the foregoing figures they understate, as regards secondary syphilis, the amount of inefficiency due to that form of disease, as in several stations men were treated by hypodermic injections of mercury without admission to hospital. Many medical officers report that the type of disease was very severe, the following being extracts from some of their reports:—'The syphilitic cases were of a most virulent type, and in most instances the health of those attacked was markedly impaired The course of many acute diseases was materially directed by syphilis. . . . Many cases of ulcer of penis were accompanied by suppurating buboes, which often proved most intractable to treatment during the hot weather. . . . Primary syphilis and gonorrhoea were often followed by large indolent or suppurating buboes; the latter were of frequent occurrence. . . . The average duration of each case was 27 days, equivalent to a total loss to the service of 6 per cent. of the strength for 12 months. . . . The type of the disease appears to have increased in severity. . . . The type of syphilitic affections appears to be getting worse. Primary sores are more prone to take on sloughing action. Rupial ulceration and the prevalence of syphiloma are greater than formerly. . . . As far as the efficiency of the army is concerned, if

we judge from Bangalore, it is most seriously sapped by syphilis and its concomitants. A large proportion of men are ineffective in hospital, and a large proportion still in the ranks are able to get through their duty with constant visits to hospital under peace conditions, but would break down at once on field service, and encumber and hamper field hospitals.'"

Thus, a force of, approximately, four regiments, for which the people of India are compelled to pay, is rendered inefficient, because some busy-bodies at home object to the means by which the ravages of these diseases were held in check.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Ninety-eighth Session, held at Baltimore, Md., April, 1896. Also Semi-Annual Session, held at Belair, Md., Nov., 1895; and Special Memorial Meeting in Baltimore, Dec. 14th, 1895. Pp. 143.

THE greater part of the contents of this book are of merely local interest. There are two addresses—one by Dr. Charles G. Hill, the President of the Faculty, who is Professor of Diseases of the Mind and Nervous System in Baltimore Medical College; the other by Professor Solomon Solis Cohen, M.D., a Philadelphia physician, selected to deliver the Annual Address. The latter, which the author entitled "Some Thoughts concerning Disease and Recovery in their relation to Therapeutics," does not call for any remark. Dr. Hill's paper records his experience of treatment of insanity by thyroid feeding; and his results are so remarkable as to deserve notice:—

"The experiments were made on a wide range of subjects, from the acute forms of mania and melancholia to the long-abandoned dement; but the bulk of the cases were those of dementia under fifty years of age and of not too long standing. Very severe tests were also made in cases of acute mania and recent melancholia, by suddenly dropping all medication given for the purpose of quieting the excitement of the one, and relieving the melancholy delusions of the other—a proceeding quite liable to precipitate either form into a decided relapse. The results of the treatment may be summed up as follows:—Unimproved, 8. Improved, 12. Greatly improved, 14. Cured, 5. Died, 1. Total, 40."

We select for transcription one most interesting case of dementia treated by thyroid feeding.

"Mrs. G., a young married woman. aged about thirty. Seven years ago she was admitted to Mt. Hope as a case of acute mania, and in spite of all treatment relapsed into dementia within twelve months. Two years afterwards, on being told that her case was hopeless, her husband removed her to another institution as a matter of economy. Three years later, the finances of the family having improved, she was returned to Mt. Hope the same silent, helpless dement as when she left, and up to the beginning of the thyroid treatment, two years afterwards, remained in this condition. She was as helpless as an infant, dirty in her habits, had to be dressed and undressed, and taken to and from the dining-room. The effect of the thyroid treatment with her was magical. She was talking the next day, dressed and undressed herself the second day, cleaned up her room the next morning, and asked for some work to keep the time from hanging heavily on her hands. Though the treatment has been discontinued she continues to slowly improve. I can readily understand why her cortical brain substance, which has been so long unused, cannot be at once restored to its full functional activity, but I believe that the re-awakening of her mental faculties will, like exercise to a long-disused muscle, gradually restore its function by re-clothing her atrophied brain cells and expelling the insipid and useless interstitial deposits by which they have been so long clogged. I am watching the return of memory, judgment, will-power, &c., with no little interest."

It was observed that elevation of temperature, varying in degree and in period of onset in different patients, followed the administration of five to ten grains of the thyroid three times a day. The temperature ranged up to 104° ; averaging 99.5°

The pulse rose also (sometimes to 150), and the depressing effect upon the heart often led to discontinuance of the treatment. In conclusion, Dr. Hill suggests that, at least some forms of insanity being of toxic origin, other anti-toxins besides thyroid and its products may be discoverable. He points to the well-known beneficial effects upon insanity of the paludal and the typhus infections, and infers "that further observation on the result of thyroid feeding and the influence of certain infectious diseases in the cure of insanity, coupled with the rapid advances being made in

bacteriology, may open up a field for pathological research that will lead us to the discovery of a toxine and antitoxine for insanity."

The Swedish System of Physical Education: Its Medical and General Aspects. Expanded from a Paper read before Members of the British Medical Association. By THEODORA JOHNSON, Principal of the Swedish Institute, Clifton, Bristol. With 27 Illustrations. Bristol: John Wright & Co. London: Simpkin, Marshall, Hamilton, Kent & Co., Ltd.; Hirschfeld Bros., 82 High Holborn. 1897.

THE authoress, who evidently writes *con amore*, is an enthusiast as well as an adept in the subject which she undertakes to teach. We are told in the preface that "the following pages have been published in response to the request of medical friends." The nucleus of the æsthetically-prepared booklet before us has been derived from the paper referred to in the title; but it has been found necessary "to remodel and extend the limits of the paper, embodying somewhat more of the results of nearly twelve years' experience of this work in England and of observations made in Sweden."

The writer has given in very clear language the essential features of the "Swedish system of physical training," which "represents the life work of Pehr Henrik Ling, Member of the Royal Academy of Sciences, Stockholm." We cordially recommend the subject to the attention of our readers, as it appears to be based on sound physiological principles, and as we are told that "the treatment is eminently successful when applied to lung diseases—in early stages of asthma and consumption, and, as a preventive measure, to strengthen lung tissue and increase the vital capacity where an inherited tendency to these may exist; to diseases of the digestive system and discomfort arising from flatulence, constipation, and so on; in nervous cases, such as the various phases of hysteria, chorea, paralysis, and neuralgia; in joint diseases, such as rheumatism, gout, synovitis, stiff joints, sprains, and dislocations; and in cases of general want of tone, as anæmia, sleeplessness, and debility. Proof of this statement may be

found in the results of a few such cases, which having (with one exception) been treated by the writer, and being medically attested . . .” This is, truly, “a large order,” comprehensive of a considerable subsection of the physical ills of life ! We believe the *principles* of the system to be thoroughly sound, and look forward to further recognition of its practice in this country.

The Royal University of Ireland: The Calendar for the Year 1897. Dublin: Alexander Thom & Co. 1897. 8vo. Pp. 461.

Examination Papers, 1896: A Supplement to the University Calendar for the Year 1897. Dublin: Alexander Thom & Co. 1897. 8vo. Pp. 650.

THESE two volumes contain all the information which is needed by candidates for degrees in the Royal University of Ireland. They are, as usual, well brought out, but it is too late for the Calendar for 1897 to appear in the month of April. The copy for review reached us on the 23rd of that month. At pages 200, 201 will be found the changes in the Medical Courses and Examinations which will apply in 1898. They are not many or important.

Traité de Therapeutique et de Matière Médicale: Contenant les Principes de la Nosologie Naturelle de la Prophylaxie et de la Pharmacologie. Après les Leçons Professées à l'Hotel-Dieu de Paris. Par VICTOR AUD'HOUI, Directeur de la Bibliothèque Aldine Médecin de l'Hotel-Dieu; Professeur Particulier de Thérapeutique et d'Hydrologie Médicale, Médecin des Eaux de Vichy. Paris: G. Steinheil, Éditeur, 2, Rue Casimir-Delavigne. 1897.

THIS is a really excellent volume, full of concentrated information—a great deal of which is tinted by the original observations of the author. As usually occurs in high-class scientific French literature, as in the high-class cookery of the same nation, the material offered is not only the best of its kind procurable, but is served up in the most easily assimilable form. We have before us, in the present instance,

a beautifully-printed octavo volume, of xxxv and 1,114 pages, from which we would not have a single sentence struck out. We have met with very few scientific manuals of which we could conscientiously assert so much.

It would be mere idle pretence to attempt to criticise so vast an amount of material in detail. As already intimated the general impression is most favourable; and we most warmly recommend Dr. Aud'Houi's book to the notice of every student of therapeutics.

The Feeding of Infants. By EDMUND CAUTLEY, M.D.,
Physician to the Belgrave Hospital for Children.
London: J. & A. Churchill. 1897.

THIS is a most excellent book, and Dr. Cautley has gone to a very great amount of trouble and personal investigation by research in order to give us a thoroughly scientific *résumé* of the present state of our knowledge on the feeding of infants and young children. There are few subjects more difficult to write upon. To those unacquainted with the subject it may seem simple; but the more one investigates it the more obscure does it seem, for difficulties are for ever presenting themselves. There are several most valuable lessons in the work. "The Micro-organisms in Milk and their Destruction;" "The Characters of Cow's Milk and the Milk Supply;" "Proprietary Foods and their Value," are wonderfully well treated. It is most extraordinary how little people, and often even medical men, know about milk. A perusal of some of Dr. Cautley's pages will show the reader the depth of the subject he treats of. There is a first-class index, which is very reliable and most valuable. Dr. Cautley has given us the entire subject well up to date; and as an example of his study of other workers in the same direction he tabulates these authors in a list, which number 197. There is a valuable appendix on Diet for Children. After a careful perusal we notice only one small error or slip. On page 172, in his excellent list of substitutes for milk, the reader is referred back for "Meig's Mixture" to Table LVII. We think this is a slip for LI. on page 148. This is a slight thing indeed, and

we merely call attention to it as the only trace of inaccuracy in the whole volume.

On the "Feeding of Infants" there is no better book we know of; and, moreover, it is beautifully printed and of a convenient size. It is, of course, most useful to those who devote special attention to the peculiar diseases of children.

Formulaire des Médicaments Nouveaux pour 1897, par H. BOOQUILLON-LIMOUSIN, pharmacien de 1^{re} classe, lauréat de l'École de pharmacie de Paris. Introduction par le D^r HUOHARD, médecin des hôpitaux. 1 vol. in-18 de 338 pages, cartonné. Librairie J.-B. Baillière et Fils, 19, rue Hautefeuille (près du boulevard Saint-Germain), à Paris.

THIS useful little work may best be described as the French analogue of Martindale's "Extra-Pharmacopœia." The edition of 1897—the seventh—contains a large number of new remedies recently introduced into therapeutics, but few of which have so far found a place in any other formulary, however up-to-date. We may instance particularly:—Actol, airol, amygdophéine, antinosine, apolysine, argonine, benzacétine, bismal, bromure d'hémol, caféinate de fer, chloralose, citrophène, cuprohémol, éosote, eucaine, eudoxine, ferripyrine, ferrostyptine, gallicine, gélatine, glutol, glycérophosphates, hémogallol, hémol, hypnoacétine, iodates métalliques, iodoformine, itrol, kola, lysidine, myronine, nosophène, nutrose, orphol, phosphergot, pipérosine, pixol, protogène, pyrantine, quinosol, salantol, salipyryne, salithymol, salophène, sanoforme, somatose, sublimophénol, tannalbine, tannoforme, tannigène, thiosinamine, urotropine, xéroforme, etc.

Guy's Hospital Reports. Vol. LII. 1896.

THE opening paper is a 104-page In Memoriam notice of Arthur E. Durham; it is rather discursive (witness the tales of juvenile pronouncements on the Devil, which are tacked on to a very ordinary remark of Durham's in early

childhood), and the personality of the subject is kept rather in the shadow, but the essay is eminently readable, and is a pleasant picture of the life and work of a surgeon at Guy's.

Dr. Frederick Taylor has an interesting case of shingles followed by paralysis of the abdominal muscles, followed by partial improvement, probably from hypertrophy of the unaffected muscular fibres. Dr. Taylor also reports some interesting cases of cirrhosis of the liver in children.

Most of the other contents are interesting clinical papers.

A Practical Manual of Diseases of Women and Uterine Therapeutics. By H. MACNAUGHTON JONES, M.D., &c. Seventh Edition. London: Baillière, Tindall & Cox. 1897. Crown 8vo. Pp. 909.

WE remarked on a former occasion, when reviewing this book, that an author did not require any journalistic aid to make a work which had already passed through so many editions popular with the public. It nevertheless is our duty to say what we think about the works submitted to us, and we could wish that the task was at all times as pleasing a one as in the present instance.

The edition before us is in every respect ahead of its predecessors, and is undoubtedly the most up-to-date work of the kind that has so far been published in England. It affords a concise, readable, and, for the most part, accurate account of gynæcological teaching as it obtains in all the more important clinics throughout the world, and those unacquainted with the enormous progress made within the past ten years in this branch would do well to closely study the book.

The author's illustrations and diagrams are worthy of special notice. Being clear and distinct, they leave no room to doubt the idea intended to be conveyed by them. Some wood-cuts representing gynæcological couches and tables are antiquated, and might, with benefit, have been omitted, while others which are good, as in Fig. 27, have unfortunately no indication of the maker's name marked

on them. Others again—such as the galvanic stenis, the plates representing the introduction of a sound by touch and not by sight, as also the author's speculum designed to throw the reflection of the cervix on to a screen—give a strangely out-of-date appearance to the book, and might well have been omitted.

For the first time Dr. Macnaughton Jones has grappled with the very difficult subject of asepsis in operations, and he clearly points out that there is no safety without absolute cleanliness. It is curious to note how slowly prejudices die, for even in this modern work we find the author again asserting that pelvic peritonitis may arise from the passage of a cold sound into the uterus, and to obviate such danger a plug of warm wadding should be placed in the vagina after any tedious manipulation with that instrument.

It is quite unnecessary to go through this work in a *seriatim* manner, as was done by us on a former occasion, but it will suffice to say that while the former edition was lamentably behind the times as regards advances made in the methods of abdominal and vaginal operations, a similar reproach cannot be urged against the author in the present instance. The operations he now describes are not new-fangled innovations, but are those which have been for the most part extensively practised within the past three years, and have aided enormously in the lessened mortality that now obtains in abdominal surgery.

Fifty-four Consecutive Ovariectomies. By A. C. BUTLER-SMYTHE, F.R.C.S. Ed., F.R.C.P. Ed. London: J. & A. Churchill. 1897. 8vo. Pp. 119.

AN operator who can boast of performing fifty consecutive ovariectomies without a death may well be pardoned for writing a short work on the subject.

The book can be read with profit by all, for the author is no slave to authority, and throughout his operations often departs from the rules laid down with so much dogmatism by many abdominal surgeons.

Carefulness in the matter of detail and simplicity of his surroundings appear to us to be what he most of all aims

to attain. Thus—"The room in which the operation is to be performed must be well lighted, scrupulously clean, and far removed from any water-closet or bath-room. It should be large enough to contain two beds, a cupboard, washstand, two tables, and a couple of chairs. My usual habit is to have it thoroughly disinfected with sulphur before each operation. Nothing in the way of eatables should be kept in the room, and, if possible, the nurse will have her meals elsewhere, as the smell of cooked food is objectionable to most sick persons."

It will be seen by the above that the author does not attach much importance to the elaborate operating rooms which are now generally held as materially diminishing the mortality after abdominal sections.

Again, we note that he advises opium per rectum in the event of restlessness, or pain being suffered from. He strongly advocates the enlarging of the abdominal wound in the event of difficulty being experienced in the bringing the tumour out.

A quinine enema (grs. 15) is advised for the relief of flatus, and many other methods of treatment will be found novel and of interest to those who have not devoted particular attention to this branch of surgery.

The Menopause and its Disorders. By A. D. LEITH NAPIER, M.D., F.R.C.S. Ed. London: The Scientific Press. 1897. Royal 8vo. Pp. 307.

WE may surely exclaim that there is no end to Specialism in medicine. Hardly does a branch of this science dis sever itself from the parent trunk than it, in its turn, tends to subdivide into what we are only permitted for the present to call "terminal branches."

To illustrate our meaning, our readers are referred to the volume before us. It is a large and handsomely got up work, copiously supplied with micro-photographic plates, and entirely devoted to a subject which usually is relegated to a short chapter in the modern gynæcological books.

Save as regards the causes of menstruation, the author does not claim any originality for the information afforded

in the work. His endeavour has rather been to collect and summarise the views of the leading authorities who have treated of this too much neglected subject. In doing this he has displayed an amount of erudition and painstaking research, which absolutely guarantees the success of the work.

Dr. Napier's views as to the causes of menstruation do not appear to differ sufficiently from those of Mr. Tennison Collins to warrant any but the latter's name being associated with them. They are summarised as follows:— (1.) Congestion of the genital organs must be considered the result, not the cause, of the beginning of the menstrual process. (2.) This congestion is more marked in women than apes. (3.) "Chemical changes occur in the blood." "These chemical changes are due to general and special metabolism, and cannot be regarded as the cause of the nervous irritation." (4.) Ovulation is not the cause of menstruation; it may and does occur independently. (5.) Menstruation is not the cause of ovulation. (7.) Ovulation and menstruation are to some extent interdependent. (8.) It is not proved that menstruation depends on one special menstrual nerve. (9.) The uterus is highly endowed with nerves, and is greatly influenced by these nerves. (10.) A nerve centre governing menstruation is an essential factor for the process, and its excitation is due to peripheral irritation.

Dr. Napier, of course, does not pretend that all these observations have originated with him, but for some of them he claims sponsorship, and we shall leave our readers to say how many of them may be conceded as being genuinely his, and shall at once proceed to glance at the ground covered in the work.

The theories of menstruation are dealt with in Chapter I.; its anatomy in Chapter II.; physiological considerations claim the author's attention in Chapter III. Here it is mentioned that the "ovaries are glands which secrete a special substance, and exercise a special metabolic influence by aiding the periodic flow," and "that gland secretions given in certain morbid conditions act in restoring what is lacking in the system." Few now doubt these assertions,

and we regret that the author has not more definite information to give as to the actual benefit which may with some certainty be expected to follow the administration of ovarian extract in disorders of the menopause.

Chapter IV. enters fully into the normal change of life, and Chapter V. deals with the disorders attending that condition. Here we are afforded sufficient information in regard to drugs and their applicability to satisfy the aspirations of the most enthusiastic therapist.

In dealing with the influence of the menopause on fibroids the author's experience is similar to that of Baldy, Hegar, Tait, and a host of other observers. He writes: "It is a grave responsibility to assume that every case of fibroid will become ameliorated at the menopause." As regards treatment, hysterectomy is advised, but occasionally therapeutic measures may give relief. Of these ergot and strychnin take a foremost place, and to these *hydrastis canadensis* may be added.

"Thyroid extract appears to have a resolvent action on the soft adenoid tumour (the soft red fibroid), which is the most usual variety found increasing at and after menopause."

Malignant disease, as it affects both the body and the cervix of the uterus, next receives the author's attention.

Ovarian tumours and uterine displacements in elderly women bring us to the end of this very interesting book, and we may congratulate ourselves that so comprehensive a work is within our reach.

A Practice of Midwifery. By LLOYD ROBERTS, M.D., F.R.C.S. Ed., &c. Fourth Edition. London: Churchill & Co. 1896. Crown 8vo. Pp. 585.

THIS work has been so long before the medical public, and is now so well known and appreciated, that the reviewer feels he may be pardoned if he does not enter into its merits in so full a manner as its appearance in a first edition would necessitate.

Roberts' Midwifery has always enjoyed the confidence of the student. It is sufficiently compact to satisfy the

requirements of a man anxious to obtain a good working knowledge of this branch of his profession with a minimal amount of reading, and at the same time its general accuracy makes it a useful work of reference to be placed in the library of the busy practitioner.

The work that we are considering in appearance does not much depart from its predecessors, but is brought up to date by special chapters on Antiseptic Delivery, Symphysiotomy, Different Methods of Transfusion, &c.

Anatomy and Embryology are considered in the first five chapters. These occupy 126 pages, so that it is apparent that the author has not glossed over this portion of his work.

The chapter dealing with the early signs of pregnancy is disappointingly curtailed, and does not take account of the numerous valuable signs which within the past ten years have been made known to the profession.

For those who have been educated in the Rotunda Hospital much of the advice afforded in this book must be considered heterodox. It is advised to express the placenta from the uterus at the end of twenty minutes, as one might squeeze a lemon. Sponge-tents, vaginal plugging, and separation of the lower zone of the placenta is the treatment advocated to combat the dangers of placenta prævia.

In *post-partum* hæmorrhage it is advised to insert the hand into the uterus before a trial is made of a hot antiseptic douche. Why the cart is put before the horse in this manner we fail to comprehend. From a common-sense point of view it must occur to all that the more reasonable method would be to try the less dangerous antiseptic douche in the first instance, for even should it fail to control hæmorrhage it will go far towards aseptifying the passages, and so rendering the subsequent introduction of the hand a less perilous proceeding. But these and many other views which we note are only instances of the radical differences that obtain as to the proper conduction of midwifery at the end of the nineteenth century.

The work is brought out at the moderate price of 10s. 6d., and, on the whole, can be recommended as a good one.

In concluding, we have to remind the publishers that a

professional man's time can be occupied with greater profit than in cutting the leaves of Roberts' "Practice of Midwifery."

Vita Medica: Chapters of Medical Life and Work. By SIR BENJAMIN WARD RICHARDSON, M.D., LL.D., F.R.S.
London: Longmans, Green, & Co. 1897. Pp. 496.

It is not often that an autobiography carries its author's life to its last page, but Sir Benjamin had finished his "Vita" but two hours when he was seized by the illness which terminated fatally two days afterwards. A curious parallel is related by the author: Dr. John Snow, the leading practitioner in anæsthesia, "died rather suddenly, at the comparatively early age of forty-five years, on June 8th, 1859. His last work was the preparation of a book on 'Chloroform and other Anæsthetics,' and, singularly, the last word he wrote was 'Exit.'"

In these chapters of medical life Sir Benjamin gives a wonderfully clear and interesting account of the life of a medical student, an assistant, and a practitioner half a century ago; and from beginning to end are frequent word portraits, lightly touched in, of men whose names deserve to be recorded in a medical Pantheon; and of incidents of practice—grave or gay.

Take the following conversation overheard by the author in a house in Russell-square soon after he settled in London:—

"'Has the doctor seen Rebecca?'"

"'Oh yes, ma'am! and we have only to send to the dispensary for the medicine.'"

"'What sort of man is he, and how did he come? Did he drive?'"

"'Oh! I think you'll like him, ma'am; but—poor devil!—he is only a walking doctor yet.'"

The revolution caused by the discovery of anæsthetics has often been sketched, but never more lightly and yet more vividly than by the author, who was not only a spectator of the change, but also an earnest worker

striving to render the new process more accurate and less dangerous.

Throughout the book many of Sir Benjamin's original researches are mentioned; and in order to give a clear view of their purpose and results, the development of each is given a paragraph to itself, and is traced from its first conception to the place where its author left it; in many cases suggestions are added as to the directions where younger observers may hope to advance the researches. Amongst these researches may be mentioned: The lethal chamber, studies on the blood, researches on local anaesthesia, and vital phosphorescence; in the latter the author succeeded in making eggshell artificially—an experiment exceeded in interest only by the rapid artificial manufacture of fossils, which the author accomplished by pressure and superheated steam; an experiment which threw an entirely new and unexpected light on the problem of the time wanted for geological changes.

A curious story is told of one of Sir Benjamin's best known literary successes. When asked to preside over the Health Section of the Social Science Congress at the Brighton meeting of 1875, he wrote a Presidential Address, but fearing it might be thought too imaginative for the Association he wrote a second address on "The Statistics of Death Rates." When the meeting came he was still undecided what to do, and carried both addresses in his pocket. As he entered the dome the late Dr. Patrick Stewart met him, and said the company were worn out with statistics, and if he had nothing better to give them he had better set the example of going home! "Not a syllable more was wanted. I took the chair, and delivered the address long so well known as 'Hygeia: a Model City of Health.'"

The Battle with Alcohol is a chapter of great interest, as it shows how the author was brought up to believe in the pleasantness and use of alcohol, and that it was by the result of experiments, designed for a different object, that the fallacies underlying commonly-received theories of its uses were discovered. The greatness and singleness of the author's character is shown by the fact that, having

once discovered these fallacies, he continued and published his researches, in spite of the hostility and illwill evoked. The account given in the book of the professional troubles that his new views brought upon him is written without bitterness; but it was written at a time when the hostility had been lived down, when his teaching was widely known, and when his very views about alcohol had re-lifted him into eminence; and so we can realise how much bitterer the trial must have been at the time than it was when he came, after the lapse of many years, to review it.

The researches on alcohol commenced in a curious way. The author believing that alcohol raised temperature instituted a series of experiments to measure the amount of the increase caused by measured quantities of alcohol. To his surprise there was no increase, but an actual decrease of temperature, and he laid this fact before the British Association in 1866. It was thought that he must have been mistaken in his methods, and his report was handed back for correction.

Further investigation proved his experiments to be correct, and he was led on to further researches, all of which showed that alcohol was not a stimulant but a narcotic, that it caused degenerations, and that the well-known failures caused by large quantities of alcohol varied but in degree from the effects of small quantities. The result of these researches were given to the public in the celebrated Cantor Lectures, and the author never saw reason to change the views there enunciated. "Alcoholic degenerations," "alcoholic phthisis," and alcohol a "temporary shroud," are some of the terms which the author passed into common circulation.

The book is beautifully printed, large fresh type and good paper being used. Here and there is a misprint, such as "carnivorous"—the first word of page 270—instead of "herbivorous;" but such mistakes are wonderfully rare considering that the author did not live to correct the proofs.

Sir Benjamin's last wish is a reflex of his kindly mind—"The wish that I could have done much more and much better for my day and generation, so as to have helped to turn this earth into a garden, with all races of one colour;

all men and women brothers and sisters, with the beautiful lower animals as their companions; with their high roads through the skies and their paths on the floors of the seas."

Cycling as a Cause of Heart Disease. By GEORGE HERSCHELL, M.D., Lond.; Senior Physician to the National Hospital for Diseases of the Heart, &c., Soho-square; late Physician to the West End Hospital for Diseases of the Nervous System. London: Baillière, Tindall & Cox, 20 King William-street, Strand. 1896.

WE welcome the warning note sounded by Dr. Herschell on the subject of one of the most prominent movements of our progressive age:—"We fall in love with the machine, with its easy and agreeable motion; we give as much of our time to it as we can afford; we get rid of our dyspepsia, and, in its place, produce chronic degenerative changes in our heart and arteries." The author speaks sensibly and truly of the dangers of this insidious form of "over-exertion"—for such it very much tends to become. The enthusiast cyclist seldom seems to know when to stop. With regard to the question of cycling for the young, the author tells us—in italics:—"When we allow a child to ride long distances upon a cycle we are carrying out a physiological experiment which, although possibly of interest from a scientific standpoint, must be utterly unjustifiable."

The deleterious effects of this seductive form of exercise on the heart, vessels, and system generally, are pointed out with great force and clearness. We cordially recommend the booklet to the notice of all practitioners.

Extraction of the Teeth. By J. F. COLYER, L.R.C.P., M.R.C.S., L.D.S., &c. London: C. Ash & Sons, Ltd. 1896.

A CAREFUL perusal of the contents of this small work will convince anyone acquainted with the subject that the author has expended much thought, and brought to bear a ripe experience, upon the matter in hand. Scientific

extraction of teeth is indeed a desideratum when such an operation is unfortunately called for, and how to attain to this has been clearly put by Mr. Colyer.

Excellent drawings of modern English forceps, as suited to the individual teeth, are given, with lucid descriptions of how to use them. Such difficulties as occasionally arise during or after extraction are briefly yet concisely discussed, and the methods of treating same are considered. The author points out the so-far unsatisfactory results obtained from the use of the *local* anæsthetics now to hand; many practitioners will, we think, quite agree with him—perchance *eucaine* may prove more reliable. We believe that anyone interested in the subject must, on reading this short series of notes, carry away with him much practical information. Clear printing and good illustrations, with neat binding, go to complete a very handy pocket volume.

LEPROSY IN NEW SOUTH WALES.

THE Report for 1895 of the N.S.W. Board of Health upon the administration of the Leprosy Act was laid on the table of the Legislative Assembly in Sydney, on November 5th, by the Premier. At the beginning of 1895, 40 persons remained under detention at the lazaret. During the year 10 persons were reported to the Board as being suspected lepers, and three of these were eventually admitted to the lazaret. The number of deaths during the year was five, and one patient was discharged. This patient was admitted in 1888, when only 14 years of age, and from the time he fell under observation his symptoms gradually receded, until, so says the report, as far back as two or three years ago little remained but some deformities. These were evidence, not of active disease, but of disease which had existed, and which had caused the mutilations during the by-gone time of its activity. . . . The number remaining in the lazaret at the end of the year was, therefore, 37. Of these, 16 were whites—four of them being females—while the remaining 21 were members of various coloured races. The total number of patients admitted since 1883, when the first patients were received, is 58—*Australasian Med. Gaz.*

PART III.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.
General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.
Sectional Secretary—DR. F. W. KIDD, M.D.

Friday, January 8, 1897.

The PRESIDENT in the Chair.

Exhibits.

DR. W. J. SMYLY showed five myomatous uteri which he had removed by abdominal panhysterectomy. One patient had died of pulmonary embolism on the twenty-second day. Up to that time she had made an excellent convalescence, and had been up and about for three days before this accident occurred. Shortly after getting into bed she was suddenly seized with orthopnoea and died in an hour from the onset of symptoms. A *post-mortem* examination confirmed the diagnosis of pulmonary embolism. The other patients went out well.

His method was as follows :—When the tumour was exposed it was drawn out of the abdomen by two instruments resembling cork-screws. The broad ligament was transfixed at one side, and its two ends were tied—the one near the uterus and the other near the wall of the pelvis—and the ligament was then divided between the two. Passing down through the cellular tissue of the broad ligament the uterine arteries were searched for and tied as low down as could be reached. The same process was repeated at each

side, and then the two arteries were divided. All hæmorrhage was in that way prevented during the rest of the operation, which consisted in making a transverse incision across the front of the cervix, pulling down the bladder and then cutting out the uterus. When the uterus was removed the mucous membrane of the vagina was stitched and the peritoneum was closed above by sutures. He had found the operation to be not a difficult one.

DR. ALFRED SMITH showed—(1) A large malignant papilloma of the ovary which he removed from a married woman aged thirty-five. A few days before her admission the patient slipped and recovered herself with a sudden effort; this caused a pain in the right side, which soon passed off; however, the pain returned on the third day following the injury, and became very severe and was accompanied by a rise of temperature and local tenderness. There was a difficulty in diagnosis owing to inability to separate the tumour from uterus. Abdominal section revealed cyst, contents filling abdominal cavity and an infiltration of the broad ligament by the spreading of the papillomatous growth. The tumour is the size of a sixth-month pregnant uterus, and shows a rent in its lower segment through which a large sprout of a cauliflower-like growth projects. The cyst being papillomatous, the query is, will it return by an infection of the peritoneum from the cyst contents? Recovery uninterrupted. (2) Two sub-peritoneal fibro-myomata which he removed from a young married woman; the indications were great local tenderness over tumour and inability of patient to stoop so as to perform her household duties. Recovery rapid. (3) Two small ovarian glandular cystomata, removed from patients aged respectively twenty-three and nineteen. Recovery.

DR. SMYLY said he remembered a case in which ovariectomy was performed by Dr. Kendal Franks for papillomatous disease, and the disease recurred in the cicatrix of the wound.

DR. F. W. KIDD exhibited an intra-ligamentous cyst, about size of goose egg, which he had removed from a patient aged forty-two. Menstruation was frequent and excessive. Uterus was retroflexed and could not be replaced on account of this tumour. Tube seemed stretched out over this tumour, which contained quite clear fluid. Patient made an excellent recovery.

Three Cases of Ectopic Gestation, with Exhibition of the Specimens in two of the Cases.

DR. F. W. KIDD brought forward the notes of Three Cases of Ectopic Gestation. [They will be found at p. 193.]

Notes of a Case of Ruptured Tubal Pregnancy.

DR. ALFRED SMITH read a paper entitled "Notes of a Case of Ruptured Tubal Pregnancy." [It will be found at p. 37.]

Pyometra with Pregnancy in the Second Horn of a Uterus Bicornis.

DR. BARRY read a paper entitled "Pyometra with Pregnancy in the Second Horn of a Uterus Bicornis," of which the following is an abstract:—The patient, aged twenty-three, unmarried, was admitted to The National Maternity Hospital on August 17th, 1896, complaining of severe pains in the right side. Menses at all times irregular and painful, but complete amenorrhœa since May last—three and a half months. Was in "Mater Hospital" in 1893 under Surgeon Hayes, complaining of pain in right side, when he removed the right ovary. After above history, following conditions noted:—Breasts are large, full, and nipples prominent, areola darkened with secretion in breasts. Abdomen enlarged and irregular in outline; on palpation two tumours readily made out—one to right side, quite hard, immovable, considered a fibroid tumour; the second to left, a pregnant uterus. Vaginal examination, orifice quite patulous and congested; on digital examination a large tumour is found filling up the pelvis, cervix high up and to left side, tumour in pelvis continuous with cervix. Vaginal examination modifies previous diagnosis—tumour right side now looked upon as a fibroid, tumour to left side as extra-uterine or a pregnancy in a bicorned uterus. Patient kept in hospital under observation for a fortnight with the result that the foetal heart was heard night before operation. On September 5th, 1896, patient having been put under ether, an incision was made in line of cicatrix of former opening. The tumour to right side was found firmly bound down by dense adhesions which were with difficulty broken down, and tumour brought through abdominal opening, pedicle found and tied with twisted silk ligature, tumour cut away, pedicle pared, stitched over and dropped in. No difficulty experienced in removing left pregnant horn. Abdominal wound closed, no drainage used. The patient made a perfect recovery, the temperature only on two occasions reaching 100° F.—once on the day of operation and, again, on the eighth day when the abdominal stitches were removed. After removal of stitches some purulent matter escaped through one of lower stitch wounds, and continued doing so for some days. The vaginal tumour was aspirated and four ounces of pus removed, with the result that the vaginal tumour practically disappeared.

The case presents many features of interest; first of all, the diffi-

culty in making a diagnosis—having to deal with three tumours, and an ovariectomy having been already performed. Dr. C. J. Cullingworth has described an exactly similar case without the pregnancy in the left horn, in a paper read by him before the American Gynecological Society, in May, 1893, and fully reported in the June number of the *American Journal of Obstetrics* for that year. He has gone exhaustively into the subject, quoting many interesting cases. I may mention that the silk ligature, used in tying pedicle of right horn, came away per vaginam four weeks after operation.

Dr. McWeeney's report on specimens—

1. Fœtus 20 cm. long, attached by umbilical cord to placenta. The placenta projects slightly from os internum and is attached to fundus and posterior part of uterus; the ovary is of large size and contains a large corpus luteum and several small cysts. The Fallopian tube is healthy.

2. The uterine wall is 3 cm. ($1\frac{1}{2}$ -inch) thick. The mucous membrane in a purulent and shreddy condition. Near fundus is a soft polypoid growth, about the size of a half-a-crown.

On microscopical examination of this polypoid growth it is found to be a polymorphous cell sarcoma—a very peculiar structure and very distinct in its nature from the smooth muscle from which it springs.

The PRESIDENT said Dr. Smith's case very clearly exemplified the advantage of an early operation, whilst one of Dr. Kidd's cases illustrated the unfortunate result of a postponement. Of course a diagnosis had first to be made, but the moment that was arrived at, his opinion was, and had always been, that the sooner the operation was performed the better, and that irrespective of whether the case seemed favourable or unfavourable for it. Dr. Barry's case of pregnancy in one horn of a uterus was a very interesting one. Dr. Barry stated that in his case the foetal heart was heard very early. He (the President) never knew of the foetal heart being heard until towards the end of the fifth month. In one of Dr. Kidd's cases the pregnancy lasted for nearly twelve months. That reminded him of a case which came under his notice in his early days of the wife of a well-known man in Dublin who was a patient of the late Dr. Evory Kennedy. He pronounced her pregnant, but she did not enlarge, and Dr. Kennedy's opinion was scouted. He (the President) also maintained that she was pregnant. She did not give birth to a child, but suffered a great deal of pain, and at the end of fifteen years she expelled the foetal bones.

DR. W. J. SMYLY said that not very long ago ectopic gestation was regarded as a very rare thing, but now the frequency of its occurrence was remarkable. During his late Mastership of the Rotunda he saw a great number of cases of ruptured tubal pregnancy, and he operated in more than a dozen cases of it. It was a great mistake to wait for collapse to pass off before proceeding with an operation. Collapse was the result of the spouting of a severed artery. The duty of the surgeon was then to stop the hæmorrhage, and the moment the artery was tied the patient recovered. Whilst the artery was spouting the heart "raced" like the screw of a steamer when it was out of the water, and collapse ensued. Another question of interest was as to the proper line of treatment to be pursued when there were hæmatoceles. If the hæmatocele was not a large one his practice was not to interfere with it, because in the great majority of such cases absorption took place, and the patient got well. But in two of his cases putrefaction of the hæmatocele occurred, and though he performed section, and washed the hæmatocele out, it was too late. If they waited until the blood putrefied an operation was of no use, and, therefore, if the hæmatocele were of any size, the safer course was to open the abdomen at once and clear it out. The most interesting cases were those in which the child went to the full term; he had met with a case in which the child died at the full term, and he removed it afterwards, but, generally speaking, the child was not alive any where near the term, or beyond the sixth month. His opinion was that it was dangerous to the life of the mother in such cases to wait for the arrival of the full term in the expectation of obtaining a living child. The risk to the mother was enormous, and, generally speaking, such children did not live beyond a month. In one case, in which there was a large six-months foetus, there was no putrefaction; in another case, which ended fatally, the child had escaped into the abdomen, and became adherent to the intestines. In other cases there was no putrefaction, and he was able to extirpate the cyst. As to drainage, he did not think it advisable.

MR. HEUSTON said that he had the pleasure of assisting Dr. Kidd in the two more recent of his cases. When assisting at the case in which the period of gestation was twelve months, the point which struck him most was the nature of the sac within which the foetus was enclosed, as it presented the usual appearance when the abdomen was opened, of gravid uterus or fibro-myoma, except that it was intimately adherent to the anterior parietal peritoneum. This was particularly puzzling to him, as in the only other case

of ectopic gestation which had gone on for a long period in which he had assisted at the operation, the foetus was perfectly free within the peritoneal cavity, there being no evidence of a sac. This case he would mention more fully as he believed it had not been recorded. It was the case of the late Master of the Coombe Hospital, and the time which elapsed from the first evidences of gestation was eighteen months. On the abdomen being opened the foetus, evidently a full term one before its death, was floating in a serous fluid free within the abdomen, and there was no evidence of putrefaction. The placenta was found to be intimately attached to the dorsal aspect of the uterus, extending well into the pouch of Douglas. After the removal of the foetus, a question arose as to whether this should be separated and removed at once or not, and Sir Spencer Wells, who happened to be present, was asked his opinion, but declined to give advice, stating that he had never met with such a case. An attempt was then made to separate it, but as it proved to be very adherent, and had a tendency to bleed, it was decided to allow it to remain in the hope that it would separate itself. With this object, its peripheral portion was stitched to the abdominal wound, closing off the general peritoneal cavity from the wound, and in about a fortnight it came away without any difficulty, and the patient eventually made a perfect recovery. When the foetus was examined, subsequent to removal, it was covered by a calcareous capsule about as thick as an egg shell. In reference to Dr. Kidd's third case, the thing which struck him most was the rapid recovery of the patient from the profound state of collapse she was in prior to the operation. He concurred in the generally expressed opinion of the gynæcologists at that meeting as to the necessity of early operation in such cases.

DR. F. W. KIDD (in reply) said in reference to the question of drainage, and in connection with the first of his three cases, that if he should have to operate again in such a case, he would try to drain through the vagina instead of through the abdomen. They would remember that in his account of the case he said he thought there was a double rupture, viz., a primary one of the broad ligament, and another of the consequent hæmatocele through the lacerations of the broad ligament itself; and it was thought that as they could not close those lacerations there might have been hæmorrhage afterwards from some points, which produced collapse, and turned the scale against the woman. In that case there was so much laceration of the tissue, and the lacerations were so much concealed by thick, clotted blood, like black currant jelly, that there was no way of dealing with them. If there was a clean

rupture of the tube, they might leave as much blood as they liked in the peritoneum ; but if the broad ligament itself was injured, lacerations of it could not be dealt with unless the blood was cleared away. As to what Mr. Tobin had said in reference to the last case, the woman left the operating table in a better condition than when she was placed on it, and that was entirely due to the stimulus of the saline solution, the volume of which made up for the blood that the patient had lost, and gave the heart something to work on.

DR. ALFRED SMITH (in reply) referred to Professor Martin's, of Berlin, method of operating *per vaginam*, and said that he was glad that Dr. Smyly was coming round to the opinion of operating at once. There was no danger in operating at once, but great danger in leaving the case over. They could not tell whether absorption or putrefaction would take place. As to drainage, he had drained all the cases of the kind that he had dealt with, and they all recovered ; but he thought drainage *per vaginam* unsatisfactory and had not practised it. As to Dr. Barry's case he (Dr. Smith) had the greatest difficulty in arriving at a diagnosis ; but one feature which struck him was the transparency of the distended horn when exposed. It was like a little balloon, but after the escape of the *liquor amnii* it contracted.

DR. SMYLY explained that he would not be in favour of operating by vaginal method with a patient in a state of collapse. He had drained in some cases and not in others, and in both the patients got on equally well.

DR. ALFRED SMITH said his practice was to drain if the peritoneum had been badly treated during the operation.

The PRESIDENT said he could not understand vaginal draining unless the vagina had been opened for the purpose of removing the uterus ; nor could he understand a vaginal operation being preferred to one through the abdominal wall.

The Section then adjourned.

SECTION OF ANATOMY AND PHYSIOLOGY.

President—JOHNSON SYMINGTON, M.D.

Sectional Secretary—A. BIRMINGHAM, M.D.

Friday, February 5, 1897.

The PRESIDENT in the Chair.

Note on the Organic Sulphates of the Urine.

DR. COFFEY read a note on the organic sulphates of the urine. These sulphates are compounds of certain organic bases—phenol, indol, skatol, kresol, &c., which arise in the alimentary canal from the putrefactive decomposition of proteids. As such putrefaction is of normal occurrence, they appear in normal urine, where they form about one-tenth of all the sulphates present. As is well known, they are considerably increased in diseases in which there is deficient absorption, or diminished secretion of hydrochloric acid in the gastric juice—conditions which are accompanied by increased putrefactive change. From a clinical point of view they are of importance, inasmuch as they are an accurate index of the amount of putrefaction in the alimentary canal. Many physicians, however, appear to be content with demonstrating the presence of one of these sulphates, viz., indican, in such cases, but as there is no fixed relation in the quantity of this substance to that of the total of organic sulphates, this method is not satisfactory. The sole method by which we can correctly determine the amount of putrefactive change is by estimating the ratio of organic sulphates to total sulphates (organic and inorganic) present. This view is established by the results of the cases now reported. The urine of a patient suffering from dilatation of the stomach was examined and gave a yield of .35 gram., .36 gram., and .355 gram. organic sulphates in 1500 c.c. urine, forming in each case about one-eighth of the total sulphates. In these cases the indican appeared to be present in very small quantities, the reaction to Jaffe's test being very feeble. The method followed in estimating the sulphates was Salkowski's. An analysis of the HCl. in the gastric juice, made at the same time by Dr. Dempsey, showed a diminution to one-fourth of the normal.

DR. PURSER thought such observations of great importance, as indicating the amount of putrefaction in the intestine. He thought that it was rather the proportion of the conjugated to the total sulphuric acid than the absolute amount of the former which was

important. He usually followed the method of Baumann in the estimation.

DR. MCWEENEY said that without questioning the importance of the issues that might be decided by the determination of the relation between preformed and conjugate sulphates, he thought the operation too complicated for general clinical purposes. The estimation of indican yielded results that would in most cases prove sufficient. He found that nitric acid acted more efficiently than the hypochlorite in causing the separation out of indigo blue. In his opinion the latter substance was a sufficiently accurate measure of the amount of intestinal putrefaction, so that it was unnecessary to resort, save in rare instances, to the major operation of determining the preformed and the ethereal sulphates.

DR. COFFEY, in reply, said that he found Jaffe's test for indican satisfactory enough, but that he thought his cases established the view that this particular organic sulphate might not be notably increased, while the gravimetric method indicated a distinct increase in the total of organic sulphates as compared with all the sulphates of the urine. The reason why a diminution in the HCl. of the gastric juice should lead to increased putrefaction in the intestine was connected with the destructive action of the acid on bacteria.

Photographs of Early Human Embryos.

DR. A. FRANCIS DIXON exhibited a number of lantern slides illustrating early human embryos. The first slides illustrated an unopened chorionic sac, measuring 8 mm. $\times$ 7 mm. $\times$ 3 mm., the probable age of which was estimated at fourteen days. The flattening of the sac was assumed to be due in great part to shrinking of the decidua by which it was surrounded when first obtained by Dr. Murphy. The greater part of the sac was covered all over by short, stout, slightly branched villi. Over one pole, however, there was a bare area of small size. The presence of this bare area and the size of the sac would fix the age of the ovum at 14 days. This determination agreed sufficiently well with the history of the case from which it was obtained. The second series of slides illustrated the external anatomy of two embryos of 22-23 days. In one the amnion and yolk sac had been removed, while the other was photographed through the amnion, and the yolk sac was in position. Finally, three photographs were shown of an embryo of 33-34 days. In this last embryo the photographs displayed not only the external markings on the embryo itself, but also gave a good view of the allantoic and vitelline arteries.

THE PRESIDENT asked Dr. Dixon what preservative he used for the embryos. He himself had found corrosive sublimate the most satisfactory.

DR. BIRMINGHAM inquired as to the method in which the photographs were taken.

DR. DIXON, in reply, said he had always used methylated spirits for preserving his human embryos. Nitric acid was best for preserving fowl embryos. In photographing, the specimens were placed in glass cells with dark bottoms, the cells were completely filled with spirits, and the cover slid on, so as to exclude all air bubbles. Special care had to be taken with the lighting.

The Applied Anatomy of the Rectum.

DR. EDWARD H. TAYLOR made a communication upon the applied anatomy of the rectum, which he illustrated by lantern slides, of frozen sections, and of dissections specially prepared to illustrate the structures met with in perineal and sacral excision of the rectum. Dr. Taylor, for the most part, followed the description of the rectum given by Treves, who places its upper limit at the level of the third sacral vertebra. Between this point and the termination of the descending colon, the large intestine formed a single loop, embracing what is usually described as the sigmoid flexure and the first stage of the rectum. This piece of intestine has been termed the Omega loop from its fancied resemblance to the Greek capital of that name. The portion of the loop with its mesentery in the iliac fossa Dr. Taylor would term the iliac colon, and the portion with its mesentery in the true pelvis the pelvic colon.

Having demonstrated the principal relations of the rectum in both sexes, he referred to its sphincteric apparatus, which is constituted by the two sphincters and the levatores ani muscles. The latter were shown, and the rôle played by them as rectal sphincters pointed out. It was evident, from the antero-posterior direction taken by the fibres of these muscles by the sides of the rectum, that in contracting they compressed the bowel laterally. In proof of this statement Dr Taylor mentioned that if the finger were introduced into the rectum in the living subject, both the extent and the tonicity of the anal canal (sphincteric zone) could be well determined. It was possible to appreciate a deep and a superficial contracting zone. The latter was certainly due to the external sphincter, whereas the former was evidently caused by the levatores ani, whose contractions were both voluntary and sudden, thus differing from the internal sphincter, which contracted slowly and independently of the will.

In perineal excision of the rectum, Dr. Taylor laid stress upon the importance of always making an attempt, even when the sphincteric zone of the rectum had to be removed, to re-construct a modified sphincteric apparatus, and showed how this might be done, by carefully preserving as much of the levatores ani muscles as possible, and afterwards connecting them with the healthy end of the gut by a series of deep sutures.

The applied anatomy of sacral excision was then considered, and illustrated by photographs of dissections.

The PRESIDENT was glad to see that Dr. Taylor had emphasised the distinction between two parts of the rectum—the sphincteric and the supra-sphincteric areas; he (the President) would go further, for he held that they were functionally and anatomically distinct—the former was capable of acting as a reservoir, while the latter, which he had called the anal canal, was not. While he agreed with Dr. Taylor as regards the sphincteric action of the levatores ani, he thought it would be very difficult clinically to distinguish between the action of the external sphincter and the levator, which practically ran into one another, as seen on coronal section through the anal canal. He was not quite satisfied that the internal sphincter was purely an involuntary muscle. Undoubtedly, the glutens maximus and ischio-rectal pads of fat assisted in the closure of the anus. He approved Dr. Taylor's proposal of preserving and utilising the levatores ani in excisions of the rectum, in order to secure its assistance as a sphincter.

DR. BIRMINGHAM expressed the opinion that the internal sphincter was not a real functional sphincter of the anus at all. The anal canal is merely an antero-posterior slit, with its lateral walls in contact; a contraction of the internal sphincter which surrounds this passage, and has no fixed attachment, would tend rather to relax than to close the canal. Its use was to force the fæces through the canal during defæcation. The levatores ani, he believed, were the chief sphincter, and they were placed in the most advantageous position for their action to be effective—namely, at the very beginning of the anal passage; a sphincter lower down would be less effective. The explanation of the very slight change of the reflexion of peritoneum from rectum to bladder, brought about by distension of the bladder, was to be found in the fact that the base of the bladder was practically unaffected by distension.

DR. PURSER said that, judging by the analogy of the bladder, in which the so-called sphincter muscle at the neck was certainly not the true sphincter, but was used for expelling the last drops, while the true sphincter was of striped muscle lower down, he was

inclined to agree with Dr. Birmingham's view of the nature of the internal sphincter. It had been shown that, even after removal of the spinal cord, the external sphincter preserved its tone and underwent rhythmic contraction, which would seem to show that it had a regulating nervous mechanism within itself.

The Section then adjourned.

SECTION OF STATE MEDICINE.

President—J. M. REDMOND, M.D.

Sectional Secretary—NINIAN FALKNER.

Friday, February 19, 1897.

The PRESIDENT in the Chair.

The Present State of the Typhoid Question.

DR. MCWEENEY gave an account of some of the most recent researches into the distribution and identification of the typhoid bacillus. He dealt, in the first instance, with the results obtained by Cartwright Wood in his recent experimental investigation of the relation between oysters and the typhoid bacillus. The matter might be summed up as follows:—The specific bacilli can remain alive for lengthened periods in sea water, though without multiplying. They can remain alive for lengthened periods in the oyster-fluid, though not in the interior of the oyster itself. At somewhat warm temperatures they can multiply in the fluid of the oyster, and this may happen after removal of the mollusc from the sea during the storage-period that precedes consumption. One could not but subscribe heartily to Dr. Wood's proposition that "the only principle which can be applied with safety to this question is to judge the sea water as we should a drinking-water, and to condemn all oysters which originate from beds subject to more or less recent contamination."

The other research which he desired to lay before them was more recent still—published in the current number of the *Annales de l'Institut Pasteur* by Drs. Remlinger and Schneider, of the French Army Medical Department. Their object was to ascertain whether the typhoid bacillus occurred in nature apart from cases of the disease. They employed Elsner's method for the raw material—soil, water, and fæces of non-typhoid patients—and, in addition to the eleven characters relied upon by Lösenner in his previous paper, they applied the serum-test by bringing serum from a horse

immunised against Eberth's organism, in contact with the organism under examination. With the same object they used the serum of typhoid patients. Finally, they inoculated suspected cultures into guinea-pigs with and without protective serum injections. Only when the suspected organism reacted precisely in the same way as typical typhoid bacilli under the same circumstances did they consider the identification complete. Bacilli answering all the above tests were isolated from various samples of drinking water, soil, and fæces of patients who had never had typhoid fever. They saw themselves obliged to conclude that the typhoid bacillus is extremely diffused in our midst, and needs only favourable circumstances, such as temporary individual vulnerability, in order to effect a lodgment in the human system. Attacks and epidemics may therefore originate, so to speak, *de novo*—that is, without connection with any previous case of the disease, which amounted to a reinstatement of Murchison's views.

In conclusion, the speaker demonstrated naked-eye reactions of typhoid serum on the specific bacilli. Tubes prepared by Wright's method were handed round, showing the precipitation of the bacilli by serum from a typhoid patient, whilst a central tube treated with a similar amount of non-typhoid serum was turbid owing to the diffusion of the mobile organisms.

DR. J. W. MOORE said that he noticed two points in Dr. McWeeney's paper—first, the power of oysters to communicate the germs of various diseases, as of septicæmia, malaria, and perhaps erysipelas, &c. He believed that all clinical physicians knew that the eating of oysters was connected with cases that certainly were not altogether cases of typhoid fever, and that were often accompanied by diarrhœa, high temperature, &c. He had seen two cases of what he called "oyster fever;" one was the case of a physician who had eaten oysters, and in two or three days got symptoms which ended in a fever which certainly was not typhoid. The patient recovered in about a fortnight, having had elevation of temperature, &c. Two other cases occurred at the same time. The patients were a lady and a gentleman who ate oysters, and were attacked during the night with vomiting. The gentleman recovered in a week with a little fever, but the lady died. He believed that oysters were capable of conveying many diseases. The second point he noticed in the paper was the *de novo* theory of typhoid and typhus, and on this point he had never been able to agree with Murchison. He believed that in typhoid fever, possibly the spores resisted very largely the action of heat, cold, &c., and might be called into sudden activity by certain favouring circum-

stances. There was no doubt a micro-organism of typhus, although it had not been discovered, and it was possible that it had a wide-spread distribution, and might also be called into action by favouring circumstances.

DR. GREEN (Army Medical Department) said he would like to ask Dr. McWeeney what effect sea water had on the cholera bacillus.

DR. PARSONS thought the fact stated by Dr. McWeeney with regard to the extreme prevalence of the typhoid bacillus, that in seven out of ten samples of soil, typhoid bacillus should have been isolated by the two French experimentalists, was a very astounding one. He should like to ask Dr. McWeeney what his own opinion on the matter was. He (Dr. McWeeney) had probably made several experiments himself, and he (Dr. Parsons) believed that Dr. McWeeney had not isolated typhoid bacillus on the ground of the Richmond Asylum. It was a very difficult matter to isolate typhoid bacillus out of water. Again, if in patients who were suffering from typhoid fever typhoid organisms occurred even in sufficient numbers to be isolated, it was no easy task to isolate them; but the two French scientists had succeeded in isolating the bacillus from people who had not had typhoid at all. He would like to know if Dr. McWeeney had been able to satisfy himself that the soil did abound with the micrococci of typhoid fever.

DR. GRIMSHAW, Registrar-General, said that Dr. McWeeney had mentioned some of the soils from which the typhoid bacillus had been obtained as having been in Paris. Now, Paris was infected with typhoid fever, and one would expect the typhoid bacillus to be easily got in that city. Had the bacilli been obtained in country districts outside Paris, where the disease was not prevalent? Dr. McWeeney had said that in some places there had been what might be called sporadic cases of typhoid fever. He (Dr. McWeeney) had found the bacillus in drinking-water in a great many places where one might expect to find it. He would like to know if Dr. McWeeney was himself convinced that the French investigators had calculated on the chances of discovering the typhoid bacillus which prevailed in large cities. He (Registrar-General) had seen a considerable number of attacks of typhoid fever which he attributed to the eating of oysters. Practically, everyone knew that the consumption of oysters would produce gastro-intestinal symptoms of various descriptions, similar to typhoid fever.

DR. HORNE said it was an important clinical fact, that in Dublin typhoid, as a rule, made its appearance in an epidemic type generally about September 1st, when the oyster was usually being

consumed in the city. Again, about the 1st of January there was a decrease in typhoid fever. If the bacillus were so numerous as that it existed in the soil, one would expect the fever to be present the whole year round.

DR. MCWEENEY, in reply, said that Dr. Moore's remarks were very interesting. Dr. Moore had referred to the spores of typhoid bacillus, but he (Dr. McWeeney) thought that the typhoid bacillus did not form any spores. With regard to Dr. Green's question on the effect of sea water on the cholera bacillus, the effect was practically the same as on the typhoid bacillus. Dr. Parsons had asked if he (Dr. McWeeney) was of the same opinion as the French experimentalists. Well, he (Dr. McWeeney) did not question their results, because they had worked very diligently and with very great detail, and he thought that their results had been honestly arrived at. It was well known that the tetanus bacillus was very widely distributed. With regard to the Registrar-General's remarks about the soil, Drs. Remlingen and Schneider had found the bacillus in soil which was not in the vicinity of cases of typhoid. In patients who had not had typhoid fever, and who were not suffering from the disease at the time, the bacilli had been found, and his audience might draw their own conclusions. He, himself, had had a good deal of experience in attempting to isolate the typhoid bacillus, and he had on many occasions found a bacillus, which closely resembled it in many of its reactions. He believed that bacilli bearing a very close resemblance to typhoid bacilli were everywhere around us.

The Section then adjourned.

HAFKINE'S ANTIDOTE.

IN the December issue of the *Indian Medical Gazette* Surgeon-Captain E. Christian Hare reports results of Dr. Haffkine's protective treatment upon a gang of 357 Khasia coolies, at Margherita in Assam. They landed at Dibrughar, apparently in good health, on the 16th of October. On the following day 198 were inoculated, with the "first vaccine;" on the 23rd, 179 of these were re-inoculated; 171 (including 12 policemen), remained uninoculated. Cholera of a severe type broke out on the 18th; of 38 attacked, 34 died. Of the inoculated 4 (2'04 per cent.) were attacked; all fatally. Of the unprotected, 21'38 per cent. were attacked. 18'87 died. In one group of 52 living together in the same sheds, in 36 inoculated there was one case fatal; in 16 not protected, there were 11 attacks, all fatal.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.:

Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, March 27, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	Mar. 6	Mar. 13	Mar. 20	Mar. 27		Mar. 6	Mar. 13	Mar. 20	Mar. 27
Armagh -	0·0	14·0	49·1	56·1	Lisburn -	17·0	17·0	21·3	17·0
Ballymena	22·5	33·8	22·5	22·5	Londonderry	40·8	31·4	33·0	29·8
Belfast -	30·4	31·9	30·8	27·2	Lurgan -	41·1	41·1	27·4	31·9
Carrickfergus	23·4	5·8	35·1	11·7	Newry -	28·2	24·1	20·1	36·2
Clonmel -	9·8	29·3	102·5	29·3	Newtownards	22·7	11·3	34·0	39·7
Cork -	34·6	35·3	33·9	31·8	Portadown -	74·2	30·9	30·9	18·6
Drogheda -	7·6	15·2	15·2	34·2	Queenstown	28·7	34·4	17·2	11·5
Dublin -	44·1	38·6	39·5	34·5	Sligo -	25·4	55·8	45·7	25·4
Dundalk -	20·9	16·8	16·8	20·9	Tralee -	33·6	16·8	28·0	28·0
Galway -	26·4	22·7	22·7	34·0	Waterford -	13·9	25·9	13·9	17·9
Kilkenny -	33·0	28·3	18·9	23·6	Wexford -	22·6	18·1	27·1	45·2
Limerick -	23·9	29·5	23·9	23·9					

In the week ending Saturday, March 6, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 17·4), was equal to an average annual death-rate of 18·1 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·9 per 1,000. In Glasgow the rate was 27·2. In Edinburgh it was 24·4.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of Ireland was 34·3 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,720.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 6·2 per 1,000, the rates varying from 0·0 in fourteen of the districts to 12·4 in Portadown—the 12 deaths from all causes registered in that district comprising 1 from measles and 1 from diarrhoea. Among the 164 deaths from all causes registered in Belfast are 10 from measles, 5 from whooping-cough, 3 from enteric fever, and 3 from diarrhoea. The 50 deaths in Cork comprise 7 from measles and 2 from diphtheria. Among the 7 deaths in Galway are 2 from diphtheria. The 4 deaths in Carrickfergus comprise 1 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 241—109 boys and 132 girls; and the registered deaths to 303—140 males and 163 females.

The deaths, which are 103 over the average number for the corresponding week of the last ten years represent an annual rate of mortality of 45·2 in every 1,000 of the population. Omitting the deaths (numbering 7) of persons admitted into public institutions from localities outside the district, the rate was 44·1 per 1,000. During the first nine weeks of the current year the death-rate averaged 40·9, and was 8·7 over the mean rate in the corresponding period of the ten years 1887–1896.

The deaths from zymotic diseases amounted to 87, being 22 over the number for the preceding week, and 67 in excess of the average for the 9th week of the last ten years. They comprise 44 from measles—being an increase of 10 as compared with the number in the preceding week, and 1 over the number in the week ended February 20, 1 from Rôtheln (German measles), 4 from scarlet fever (scarlatina), 8 from influenza and its complications, 21 from whooping-cough (against 12 in the preceding week and 16 in the week ended February 20), 7 from enteric fever, and 3 from diarrhoea. Of the 87 deaths from zymotic diseases 68 were deaths of children under 5 years of age.

The number of cases of measles admitted to hospital was 80, being a decline of 43 as compared with the admissions in the preceding week, and 42 under the number for the week ended February 20. Sixty-two measles patients were discharged, 3 died, and 260 remained under treatment on Saturday, being 15 over the number in hospital at the close of the preceding week.

The weekly number of cases of scarlatina admitted to hospital, which had fallen from 42 in the week ended February 13 to 18 and 11 in the two following weeks respectively, rose to 18. Nine patients were discharged, 3 died, and 131 remained under treatment on Saturday, being 6 over the number in hospital at the close of the preceding week. This number is exclusive of 20 convalescents at Beneavin, Glasnevin.

Only 4 cases of enteric fever were admitted to hospital, being 2 under the admissions for the preceding week. Eleven patients were discharged, and 35 remained under treatment on Saturday, being 7 under the number in hospital on that day week.

The number of deaths from diseases of the respiratory system registered was 62, being 1 under the number for the preceding week, but 12 over the average for the 9th week of the last ten years. The 62 deaths comprise 27 from bronchitis, 29 from pneumonia, and 2 from croup.

In the week ending Saturday, March 13, the mortality in thirty-three large English towns, including London (in which the rate was 18·4), was equal to an average annual death-rate of 18·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·1 per 1,000. In Glasgow the rate was 25·7, and in Edinburgh it was 19·6.

The average annual death-rate in the twenty-three principal town districts of Ireland was 32·9 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·9 per 1,000, the rates varying from 0·0 in seventeen of the districts to 10·2 in Sligo—the 11 deaths from all causes registered in that district comprising 1 from typhus and 1 from diarrhoea. Among the 172 deaths from all causes registered in Belfast are 11 from measles, 2 from diphtheria, 1 from simple continued fever, 3 from enteric fever, and 4 from diarrhoea. The 51 deaths in Cork comprise 6 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 208—89 boys and 119 girls; and the registered deaths to 262—117 males and 145 females.

The deaths, which are 48 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 39·1 in every 1,000 of the population. Omitting the deaths (numbering 3) of persons admitted into public institutions from localities outside the district, the rate was 38·6 per

1,000. During the first ten weeks of the current year the death-rate averaged 40·7, and was 8·5 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 67, being 46 in excess of the average for the corresponding week of the last ten years, but 20 under the number for the previous week. The 67 deaths comprise 43 from measles—being 1 under the number from that disease in the preceding week—2 from scarlet fever (*scarlatina*), 1 from German measles, 1 from influenza, 9 from whooping-cough, 1 from diphtheria, 1 from enteric fever, 5 from diarrhoea, and 1 from erysipelas. Of the 67 deaths from zymotic diseases 55 were of children under 5 years of age.

The weekly number of cases of measles admitted to hospital which had fallen from 123 in the week ended February 27 to 80 last week, further declined to 61. Eighty-two measles patients were discharged, 7 died, and 232 remained under treatment on Saturday, being 28 under the number in hospital on that day week.

Eighteen cases of *scarlatina* were admitted to hospital, being equal to the admissions in the preceding week. Twenty-seven patients were discharged, 2 died, and 120 remained under treatment on Saturday, being 11 under the number in hospital at the close of the preceding week. There were, besides, 19 convalescents at Beneavin, Glasnevin.

Ten cases of enteric fever and 3 of typhus were admitted to hospital, against 4 cases of the former and 2 of the latter disease received during the preceding week: 40 cases of enteric fever and 9 of typhus remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 65 deaths, being 3 over the number for the preceding week, and 11 over the average for the 10th week of the last ten years. The 65 deaths comprise 41 from bronchitis and 18 from pneumonia.

In the week ending Saturday, March 20, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 23·3 per 1,000. In Glasgow the rate was 24·4, and in Edinburgh it was 20·6.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 33·4 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 5·7 per 1,000, the

rates varying from 0·0 in fourteen of the districts to 11·7 in Carrickfergus—the 6 deaths from all causes registered in that district comprising 2 from whooping-cough. Among the 166 deaths from all causes registered in Belfast are 2 from measles, 1 from typhus, 8 from whooping-cough, 2 from diphtheria, 4 from enteric fever, and 2 from diarrhoea. The 49 deaths in Cork comprise 6 from measles. Among the 21 deaths in Londonderry are 2 from scarlatina. Two of the 9 deaths in Sligo were from measles. The 6 deaths in Newtownards comprise 2 from whooping-cough. The Registrar for Carrickfergus district remarks: "Measles and whooping-cough prevalent."

In the Dublin Registration District the registered births amounted to 189—103 boys and 86 girls; and the registered deaths to 271—133 males and 138 females.

The deaths, which are 68 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 40·4 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 39·5 per 1,000. During the first eleven weeks of the current year the death-rate averaged 40·7, and was 8·7 over the mean rate in the corresponding period of the ten years 1887–1896.

Deaths from zymotic diseases, which had fallen from 87 in the week ended March 6 to 67 in the following week, rose to 80, which number is 59 in excess of the average number of deaths from diseases of this class in the corresponding week of the last ten years. The 80 deaths consist of 46 from measles—being 3 over the number from that disease in the preceding week—1 from German measles, 2 from scarlet fever (scarlatina), 4 from influenza and its complications, 20 from whooping-cough (against 9 for the preceding week), 2 from enteric fever, 4 from diarrhoea, and 1 from remittent fever. Of the 80 deaths from zymotic diseases 65 were of children under 5 years of age.

There has been a further decline in the number of cases of measles admitted to hospital, the admissions falling to 49, or 12 under the number for the preceding week, 31 under that for the week ended March 6, and 74 under the number for the week ended February 27. Eighty measles patients were discharged, 3 died, and 198 remained under treatment on Saturday, being 34 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 10, being 8 under the admissions in each of the two weeks preceding. Eighteen patients were discharged, and 112 remained under treat.

ment on Saturday, being 8 under the number in hospital on that day week. There were, besides, 19 convalescents under treatment at Beneavin, Glasnevin.

Thirteen cases of enteric fever were admitted to hospital, against 10 in the preceding week and 4 in the week ended March 6. Seven patients were discharged, 1 died, and 45 remained under treatment on Saturday, being 5 over the number in hospital at the close of the preceding week.

The number of deaths from diseases of the respiratory system registered is 49, being equal to the average for the corresponding week of the last ten years, but 16 under the number for the previous week. The 49 deaths comprise 27 from bronchitis and 15 from pneumonia.

In the week ending Saturday, March 27, the mortality in thirty-three large English towns, including London (in which the rate was 17·9), was equal to an average annual death-rate of 18·7 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·6 per 1,000. In Glasgow the rate was 23·1, and in Edinburgh also it was 23·1.

The average annual death-rate in the twenty-three principal town districts of Ireland was 30·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 5·2 per 1,000, the rates varying from 0·0 in seventeen of the districts to 9·7 in Dublin. Among the 147 deaths from all causes registered in Belfast are 6 from measles, 1 from scarlatina, 3 from whooping-cough, 1 from diphtheria, 7 from enteric fever, and 1 from diarrhoea. The 46 deaths in Cork comprise 7 from measles and 3 from whooping-cough. The 19 deaths in Londonderry comprise 1 from whooping-cough and 1 from diarrhoea. The Registrar for Cork No. 3 District remarks—"Measles very prevalent, but of a mild type;" and the Registrar for Carrickfergus reports—"Measles and whooping-cough prevalent."

In the Dublin Registration District the registered births amounted to 194—111 boys and 83 girls; and the registered deaths to 242—111 males and 131 females.

The deaths, which are 31 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 36·1 in every 1,000 of the population. Omitting the deaths (numbering 11) of persons admitted into public institutions from localities outside the district, the rate was 34·5 per 1,000. During the first twelve weeks of the current year the

death-rate averaged 40·3, and was 8·4 over the mean rate in the corresponding period of the ten years 1887-1896.

The number of deaths from zymotic diseases registered was 71, being 9 under the number in the preceding week, but 48 over the average for the 12th week of the last ten years. They comprise 1 from small-pox, 37 from measles—a decline of 9 as compared with the number from that disease registered in the preceding week—1 from scarlet fever (*scarlatina*), 1 from typhus, 1 from influenza, 19 from whooping-cough, 1 from diphtheria, 2 from cerebro-spinal meningitis, and 7 from diarrhoea. Of the 71 deaths from zymotic diseases 59 were of children under 5 years of age. The death from small-pox is that of a girl aged 7 years. The Registrar's return does not show whether she had been vaccinated.

The decline in the weekly number of cases of measles admitted to hospital noted in the returns for some weeks past has not continued, the admissions amounting to 71, against 49 in the preceding week and 61 in that ended March 13. One hundred and seven measles patients were discharged, 2 died, and 160 remained under treatment on Saturday, being 38 under the number in hospital on that day week.

Twenty-four cases of *scarlatina* were admitted to hospital, against 10 in the preceding week and 18 in the week ended March 13. Twenty-eight patients were discharged, and 108 remained under treatment on Saturday, being 4 under the number in hospital at the close of the preceding week. This number is exclusive of 20 convalescents at Beneavin, Glasnevin.

The number of cases of enteric fever admitted to hospital was 8, being 5 under the admissions in the preceding week. Eleven patients were discharged, and 42 remained under treatment on Saturday, being 3 under the number in hospital on that day week.

The hospital admissions also included 3 cases of typhus. Ten cases of this disease remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had fallen from 65 for the week ended March 13, to 49 in the following week, further declined to 36, or 17 under the average for the corresponding week of the last ten years. The 36 deaths comprise 18 from bronchitis, 14 from pneumonia, and 3 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20' N., Long. 6° 15' W. for the Month of March, 1897.

Mean Height of Barometer, -	-	-	29·543 inches.
Maximal Height of Barometer (on 7th, at 9 a.m.)	30·081	„	
Minimal Height of Barometer (on 2nd, at 11 p.m.), -	-	-	28·771 „
Mean Dry-bulb Temperature, -	-	-	43·8°.
Mean Wet-bulb Temperature, -	-	-	41·3°.
Mean Dew-point Temperature, -	-	-	38·3°.
Mean Elastic Force (Tension) of Aqueous Vapour, -	·234	inch.	
Mean Humidity, -	-	-	82·0 per cent.
Highest Temperature in Shade (on 21st), -	61·6°.		
Lowest Temperature in Shade (on 30th), -	29·0°.		
Lowest Temperature on Grass (Radiation) (on 30th), -	-	-	26·9°.
Mean Amount of Cloud, -	-	-	60·8 per cent.
Rainfall (on 24 days), -	-	-	2·980 inches.
Greatest Daily Rainfall (on 11th), -	-	-	·735 inch.
General Directions of Wind, -			S.S.W., S.W., W

Remarks.

Like March, 1896, this was a changeable, wild and rainy month, with a cyclonic distribution of pressure. During the first half temperature was low. A warm spell followed, but temperature again fell briskly on Sunday, the 28th, and the month closed cold and ungenial. Compared with February, the mean temperature showed a falling off of one degree Fahr. Notwithstanding, the progress of vegetation was very rapid, and on the last day the trees presented quite a vernal appearance.

In Dublin the arithmetical mean temperature (45·3°) was about two degrees above the average (43·1°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 43·8°. In the thirty-one years ending with 1896, March was coldest in 1867 and 1883 (M. T.=39·0°), and warmest in 1893 (M. T.=48·1°), and in 1868 (M. T.=47·3°). In 1896 the M. T. was 46·1°.

The mean height of the barometer was 29·543 inches, or 0·373 inch below the corrected average value for March—namely, 29·916 inches. The mercury rose to 30·081 inches at 9 a.m. of the 7th, and fell to 28·771 inches at 11 p.m. of the 2nd. The observed range of atmospheric pressure was, therefore, 1·310 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 43.8° , or 1.3° below the value for February, 1897. Using the formula, $\text{Mean Temp.} = \text{Min.} + (\text{max.} - \text{min.} \times .485)$, the M. T. becomes 45.1° . The arithmetical mean of the maximal and minimal readings was 45.3° , compared with a twenty-five years' average of 43.1° . On the 21st the thermometer in the screen rose to 61.6° —wind, S.W.; on the 30th the temperature fell to 29.0° —wind, calm. The minimum on the grass was 26.9° also on the 30th.

The rainfall was 2.980 inches, distributed over 24 days. The average rainfall for March in the twenty-five years, 1865–89, inclusive, was 2.061 inches, and the average number of rainy days was 16.5. The rainfall, therefore, and also the rainy days, were considerably above the average. In 1867 the rainfall in March was very large—4.972 inches on 22 days. On the other hand, the smallest March rainfall was .288 inch on 8 days in 1893. In 1896, 3.310 inches fell on 23 days.

The atmosphere was more or less foggy in the city on 2 days—viz., the 21st and 30th. High winds were noted on 19 days, reaching the force of a gale on nine occasions—the 4th, 11th, 12th, 14th, 17th, 19th, 22nd, 24th, and 26th. Snow or sleet occurred on the 1st, 3rd, 4th, 9th, 12th, and 14th; and hail fell on the 1st, 3rd, 5th, 10th, 12th, 28th, and 29th. The temperature exceeded 50° in the screen on 14 days, compared with 21 days in 1896, 13 in 1895, 22 in 1894, 26 in 1893, only 7 in 1892, 9 in 1891, and 19 in 1890. It only once fell below 32° in the screen. In March, 1892, frost had occurred in the shade on as many as 16 nights. The minima on the grass were 32° , or less, on 9 nights, compared with 8 nights in 1896, 10 in 1895, 12 each in 1894 and 1893, 25 in 1892, 20 in 1891, and 16 in 1890. The thermometer once rose to 60° in the screen, but never failed to reach 40° . In March, 1892, the thermometer did not rise to 40° in the screen on 9 days. Solar halos were seen on the 9th, 11th, 25th, 27th, and 30th. Lunar halos appeared on the 8th, 13th, and 18th. Thunder was heard on the 17th, lightning was seen on the 1st and 3rd.

Cyclonic conditions, and very rough, cold, changeable weather held over North-western Europe throughout the period ended Saturday, the 6th. On Sunday, February 28, an atmospheric depression had advanced quickly from S.W., passing along the western shores of Ireland and Scotland and causing squally, showery weather. At 8 a.m. of Monday, the 1st, this disturbance was central off the N. of Scotland. Fair intervals and passing showers of cold rain or sleet and hail prevailed during the day, and at

night snow fell in the W. of Ireland. Early on Tuesday morning a dense sheet of cirro-stratus cloud overspread the sky as a much larger and deeper depression approached the British Isles from S.W. The centre of this cyclonic system travelled across Wales and Central England during the following night, and was found over Yorkshire and Lincolnshire on Wednesday morning, when the barometer was down to 28·54 inches at York and 28·52 inches at Spurn Head. Violent S.W. to W. gales blew in France, Belgium, and the S. of England. Hail and sleet squalls, accompanied by thunder and lightning in some districts, swept across Ireland and Scotland. On Thursday morning the disturbance was found over Denmark, where it was rapidly filling up; but another deep depression had already reached the N.W. of Ireland from the Atlantic. A renewal of the gales and showers resulted from the approach of this new disturbance, and thunderstorms again occurred in several places. On Friday the weather began to moderate and Saturday was a fine, dry, and sunny day. In Dublin barometric pressure increased from 28·771 inches at 11 p.m. of Tuesday (wind, W.S.W.) to 30·045 inches at 9 p.m. of Saturday (wind, N.W.). On Tuesday the screened thermometers fell to 33·9°, on Saturday they rose to 50·8°. The rainfall was ·600 inch on five days, ·351 inch being measured on Tuesday. W. and W.S.W. winds prevailed. Lightning was seen on Monday and Wednesday.

The week ending Saturday, March 13, was very broken—cold, rainy, and stormy. Only Sunday was fine throughout, but on several days there were fine intervals. A violent rainstorm occurred on Thursday evening, and much snow fell on the Dublin and Wicklow mountains during the week. Even on the lowlands sleet and hail were often mingled with the rain. The persistent presence of an anticyclone over Scandinavia and Lapland, with intense cold in those regions, contrasted remarkably with the disturbed state of the atmosphere and the unstable temperature in the British Isles and over France. On Sunday morning, indeed, the barometer stood uniformly rather high, but by Monday morning a V-shaped depression had advanced over Ireland, throwing the weather into a wet and dull condition. At night a lunar halo was seen, and this was followed by a solar halo on Tuesday forenoon. The day was mild, but towards evening a sudden chill spread across Ireland from W. to E., causing heavy rain and sleet, while thunder and lightning occurred at Belmullet. At 8 a.m. of Wednesday the barometer ranged from 30·55 inches at Hernösand (Sweden) to 29·40 inches at Wick. Showers of cold rain and hail were very prevalent on

this day, and thunder and lightning were reported from the S.E. of England. On Thursday evening the most serious depression of the week advanced to the Bristol Channel, thence passing northwards to the Irish Sea. It caused a downpour of rain and sleet in many districts. Saturday was chiefly fine, but at night a lunar halo and a falling barometer heralded the approach of a new disturbance from the Atlantic. In Dublin the mean atmospheric pressure for the week was 29·723 inches, the barometer falling from 30·081 inches at 9 a.m. of Sunday (wind, N.W.) to 29·328 inches at 11 p.m. of Thursday (wind, E.). The corrected mean temperature was 42·1°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 41·2°. The shade thermometers fell to 33·0° on Sunday and rose to 53·1° on Tuesday. The prevailing winds were S.S.E. and W. Rain fell daily to the amount of 1·277 inches, ·735 inch being registered on Thursday.

Another spell of cyclonic conditions and unsettled, squally, showery weather signalised the week ended Saturday, the 20th. Deep atmospheric depressions appeared in the S.W. at the beginning and in the N.W. towards the close of the period. In the extreme N.E. (over Northern Russia and Lapland) the barometer stood relatively high and the cold was at times very intense—on Thursday, for example, the thermometer fell to—20° at Haparanda, on the Gulf of Bothnia, and the 8 a.m. temperature at that station was—12°, or 44° below the freezing point. On Sunday morning a large depression was central off the S.W. of Kerry. Thence the system travelled in a circuitous route to Wales, over which country it was found on Monday morning. At that time the weather was dull, cold, and wet in Dublin, with a light N.E. wind. The disturbance subsequently travelled north-north-westwards to the North Channel and the wind backed in Ireland to W. and S.W. On Tuesday a new depression passed in a northerly direction along the west coast of Ireland. The reduction of pressure went on until 2 p.m. on Wednesday, when the barometer read only 28·75 inches at Malin Head. On and after Thursday there was a brisk recovery of pressure in the S.W. and S., so that on Saturday morning the barometer reached 30·07 inches in Dublin. During the disturbed period up to Friday, squalls and showers accompanied by thunder and lightning were prevalent in Ireland and England. Hail and sleet or snow fell in Scotland on Monday. In Dublin the mean height of the barometer was 29·440 inches, the range of pressure being from 29·003 inches at 9 a.m. of Tuesday (wind S.) to 30·067 inches at 7 a.m. of Saturday (wind E., light). The corrected mean temperature was 46·1°. The mean dry bulb reading

at 9 a.m. and 9 p.m. was 45·1°. On Sunday the screened thermometers fell to 36·9°; on Saturday they rose to 56·9°. Rain fell on 4 days to the amount of ·392 inch, ·239 inch being measured on Monday. Thunder was heard on Wednesday.

A continuance of cyclonic conditions is to be noted in the week ended Saturday, the 27th, but there was a great advance in temperature, and the rainfalls, although frequent, were not heavy. A succession of deep depressions passed northwards or north-eastwards along the western coasts of Ireland and Scotland at short intervals, causing fresh S.W. to W. gales and showers in most exposed districts. In the extreme north of Europe the weather remained very cold throughout, although at Haparanda the thermometer on Wednesday morning stood 26° higher than it had done 24 hours previously, at +22° compared with—4°. Sunday was very mild in Ireland and England—the thermometer rose in the shade to 61° at Parsonstown, Oxford, and in London; to 62° in Dublin and at Loughborough; and to 64° at Cambridge. In Dublin S.W. or W. gales occurred on Monday, Wednesday, and Friday—the force of the wind being especially great on Wednesday. The high temperature and frequent showers gave vegetation so great an impetus that at the close of the week even forest trees were quickly assuming a leafy covering—in fact vegetation appeared to be a month in advance. On Saturday temperature showed a tendency to give way. In Dublin the mean height of the barometer was 29·713 inches, pressure ranging from 30·084 inches at 9 a.m. of Sunday (wind, calm) to 29·210 inches at 7 p.m. of Saturday (wind, W.). The corrected mean temperature was 52·8°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 50·7°. On Sunday the screened thermometers rose to 61·6°; on Saturday they fell to 45·9°. The rainfall was ·270 inch on six days, ·085 inch being measured on Friday and ·083 inch on Saturday. The prevailing winds were S.W. and W.

On Sunday, the 28th, a brisk and sudden fall of temperature occurred in the forenoon, and showers of cold rain and hail fell in the afternoon. The cold spell thus ushered in lasted to the end of the month, a very sharp frost prevailing on the night of the 29th–30th, when the screened thermometer fell to 25° at Loughborough and Shields, 26° at Parsonstown and various British stations, 27° at Oxford, Leith, and Aberdeen, and 29° in London and Dublin. At this time the centre of a large and deep atmospheric depression (28·70 inches and less) lay over the South of Scandinavia, a cold northerly current of air being in this way drawn over the British Isles.

The rainfall in Dublin during the three months ending March 31st amounted to 7·069 inches on 57 days, compared with 4·898 inches on 47 days in 1896, 9·084 inches on 52 days in 1895, 6·028 inches on 53 days in 1894, 5·196 inches on 49 days in 1893, 4·808 inches on 48 days in 1892, only 1·650 inches on but 32 days in 1891, 7·470 inches on 45 days in 1890, and a twenty-five years' average of 6·411 inches on 51·0 days (1865–1889, inclusive).

At Knockdolian, Greystones, Co. Wicklow, 3·755 inches of rain fell on 24 days during March; and the total rainfall since January 1, 1897, equals 8·945 inches on 61 days. The corresponding figures for 1896 are 2·796 inches on 25 days, the total rainfall since January 1 having been 4·736 inches on 42 days. The maximal fall in 24 hours was ·940 inch on the 2nd.

The rainfall in March at Clonevin, Killiney, Co. Dublin, was 3·28 inches on 23 days, compared with 2·61 inches on 23 days in 1896, 3·29 inches on 21 days in 1895, 1·11 inches on 14 days in 1894, ·26 inch on 9 days in 1893, ·98 inch on 10 days in 1892, and a twelve years' (1885–96) average of 1·873 inches on 15·2 days. The maximum in the 12 years was 3·59 inches in 1888, the minimum was ·26 inch in 1893. At this station the total rainfall since January 1, was 7·59 inches on 61 days, compared with a fall of 4·25 inches on 42 days in the first quarter of 1896, 9·68 inches on 52 days in that of 1895, and 5·56 inches on 55 days in that of 1894. On the 11th, ·64 inch fell.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall in March was 4·490 inches on 23 days, 1·017 inches being registered on the 2nd, and ·748 inch on the 11th. The highest shade temperature at this climatological station was 59·1° on the 21st, the lowest was 28·9° on the 30th. Since January 1st, 10·086 inches of rain had fallen at the hospital on 57 days.

TABES AND SYPHILIS.

THE *Montreal Medical Journal* gives the result of Storbeck's examination of 108 tabetics. Of these, 22 had certainly had syphilis; 63 had not; in 23 there was doubt. Adding one-half of these last he concludes that 30·5 per cent. of tabetics had suffered from syphilis. He regards the connection between the two diseases as unproved. Our contemporary mentions, in illustration of the variability of statistics on this point, that Gowers stated that syphilis had preceded tabes in 70 to 80 per cent. of cases; Fourmin in 93; Westphal in 33.

PERISCOPE.

ANTISTREPTOCOCCIC SERUM IN PUERPERAL SEPTICÆMIA.

DR. G. H. MAPLETON, M.B., Goudhurst, writes (*Brit. Med. Journal*, April 24, 1897):—"On March 7th I delivered a woman of a living child by turning, having previously dilated the os by Barnes's bags, on account of placenta prævia, which had caused very severe flooding, and which had been treated by plugging. The placenta came away immediately after the child, leaving some of the membranes behind. Intrauterine douches of corrosive solution (1 in 2,000) were used freely. There was a slight rigor the same evening, and a rise of temperature, which during the next two or three days did not improve, but ranged usually between 101° F. and 102° F., and seldom fell to 100° F. The lochia became very offensive. Iodine was substituted for corrosive sublimate, as the latter caused salivation. On March 11th there was a severe rigor, with a temperature of 103·2° F., which fell in a few hours to 99·6° after a dose of antipyrin. On March 12th there was another rigor and a temperature of 102·2°. Twenty c.cm. of antistreptococcic serum were now injected, and the temperature fell in a few hours to 99·4°. On March 13th temperature went up to 100·4° (the last time it reached 100°), and the lochia were much better. On March 14th another dose of the serum was given, temperature being 99·8°, with the result that it fell to 98·2°. From this time the patient made a good recovery, without further injections, the temperature merely rising from normal in the morning to 99·5° or less in the afternoons for about ten days. The injections caused no local inconvenience. The serum came from Messrs. Burroughs, Wellcome & Co.

LORD LISTER'S HOUSE-SURGEONS AND DRESSERS.

WE learn that it has been arranged that those who were most intimately associated with Lord Lister as his house-surgeons, dressers, or clerks in Glasgow, Edinburgh, and London, in carrying out the details of the great principles of antiseptic surgery which he was elaborating during his tenure of office as Professor of Surgery first in Glasgow, then in Edinburgh, and lastly at King's College, London, should entertain their former chief at a banquet which will take place in London, at the Café Royal, on Wednesday, May 26th. The chair will be taken by Professor Joseph Coats, of Glasgow, and the dinner will be limited to those who have served

under Lord Lister as house-surgeons, clerks, or dressers. The dinner will therefore be of an intimate character, but will, we feel sure, be to Lord Lister not the least agreeable of the many expressions of esteem and regard which have been offered to him in connection with his election to the Presidency of the Royal Society and his elevation to the peerage. We are asked to state that, as Lord Lister entered on his duties at Glasgow in 1861, and at Edinburgh in 1869, considerable difficulty has been experienced in obtaining the names and addresses of those who were his dressers during the long period of thirty-two years for which he was a teacher of clinical surgery; and it is hoped that anyone who has filled one of the offices mentioned, but who may not have received a direct communication, should write to the Honorary Secretary of the General Committee, Dr. St. Clair Thomson, 28 Queen Anne-street, London, W. It is particularly requested that the year in which the office was held should be mentioned, and it is desired that this information should be given whether the writer proposes to attend the banquet or not, as it is proposed in any case to draw up a correct list of former house-surgeons, clerks, and dressers in chronological order. Sub-committees have been instituted in Glasgow and Edinburgh to communicate with those who served under Lord Lister in one or other of these capacities in either of the Universities.—*Brit. Med. Journal*, April 17, 1897.

A PRESCRIPTION.

A CORRESPONDENT sends the following prescription to the *Medical Record* from Chelsea (Mass.), "taken from the file of one of our city druggists who has filled it twice during the last month." The patient said it cured him of gleet:—℞. Calsum hypophos., ʒ iiij.; potas. hypophos., gr. xxv.; lithier brom., ʒ i.; die. phosfor. acid, ʒ i½; fl. ex. nux vomika, ʒ iss.; fl. ex. hydrasters, ʒ vi.; fl. ex. hammemelis, ʒ vi.; fl. ex. cann. indica, ʒ iss.; fl. ex. gelseminum, ʒ i; fl. ex. gentiern, ʒ ij.; fl. ex. chim. ophila, ʒ ij.; oil of morrus, ʒ iv.; aq. dastil; syr. symplercis, āā ad ʒ xxxij. M. Two teaspoonfuls in water one-half hour before meals.

PRACTITIONERS IN RUSSIA.

THE *Gazette Médicale de Paris* states that in 1890, in Russia, with a population of 110,000,000, there were only 18,334 doctors, one to 6,000 inhabitants; the proportions in France, Germany, and England being respectively 1 to 3,000, 1,800, and 1,600. Most of the Russian practitioners are settled in the towns, where the proportion rises to 1 to 270; while in the country districts it is 1 to 9,000; and in some provinces even 1 to 12,000. The

entire government of Archangel, with 373,000 inhabitants, contains but 14 doctors; and the seaboard of the Arctic Ocean only *three* for a population of 135,000. The death-rate in Russia is said to be 37·3 per 1,000. At the beginning of this year the students of medicine in the Russian universities numbered 5,141—1,380 at Moscow, 986 at Kiev, 752 at Kharkov, 718 at Youriev, 454 at Warsaw, 451 at Kasan, and 400 at Tomsk. To these should be added 1,400 students at the military school of medicine in St. Petersburg; making a total of 6,541. The number of medical men qualified each year does not exceed 855.

ENTOMOLOGY IN LEGAL MEDICINE.

At the last meeting of the Canadian Medical Association, Dr. Wyatt Johnston read a paper on "Some Applications of Entomology to Legal Medicine," which, says the *Montreal Medical Journal*, referred to Mégnin's work. "Mégnin had made some remarkable deductions as to the time which elapsed since death in obscure cases by merely being shown a portion of the body—a bit of bone it might be—and examining the forms of life upon it. Their observations had agreed with those of Mégnin. The first period of decomposition might be roughly placed at about three months, in which a body exposed to the air, was attacked by two varieties of flies. First, by the ordinary house-fly, and later, by the flesh fly; but as soon as the fatty acids began to form, these flies took a distaste to the body and left it, then the *Dermestes*, a species of beetle were found. After fatty acids were formed, a period of ammoniacal decomposition set in and the body began to liquefy; there was then a period of from four to six months, in which various forms of insects were found. The next period, from the sixth to the twelfth month, is a period of drying, when the body becomes parchmented. It was now inhabited by the acari-mites, species belonging to the same order as the itch insect. Towards the end of this period another set of beetles made their habitat in what still remained—the *Ptinus* and the *Tenebrio*. In buried bodies the *Rizophagus* and the *Philontes* are found."

MUSIC FOR NIGHT-TERRORS.

We learn from the *Gazette Médicale de Paris* that the Russian physician Bestchinsky reports a case in which he found musical treatment successful in a case of "night-terrors," which ordinary methods had failed to cure. A little girl, three years old, woke up in the middle of the night trembling, with wide-open eyes,

muttering unintelligibly, falling asleep again after about ten minutes. The attacks had continued for a long time, but they were becoming more frequent and more troublesome. Sodium bromide was tried without success. It occurred to the doctor to try music. He decided that the piece selected should be neither gay nor sprightly, and chose a valse of Chopin's in C minor. The mother was instructed to play this piece every evening before putting the child to bed. She slept soundly; and on one occasion when the music was omitted a slight attack supervened. Next evening the music was resumed and the child slept without disturbance. Gradually the performance was intermitted; and at the end of a month discontinued. The attacks did not recur, several months having elapsed at the time of Dr. Bestchinsky's report.

THE TRI-STATE MEDICAL JOURNAL.

THE three States, whose 22,000 medical practitioners this journal professes to represent, are Iowa, Illinois and Missouri. It is "issued monthly for one dollar a year;" and it must be said that subscribers get good value for their dollar—48 large pages of excellent matter, well-printed on good paper, as most American medical periodicals are. Its programme is comprehensive. It "stands for the code of ethics of the American Medical Association; for higher medical education; for the rights of the rank and file of the profession; for progress in medical science, and for the doctors of the United States of America." It is in its fourth year.

LABORDE'S TREATMENT OF ASPHYXIA.

THE *Gazette Médicale de Paris* quotes the result of the first German trials of Laborde's method of treating asphyxia by rhythmic traction of the tongue. M. Knapp reported 11 cases, in 10 of which the procedure was successful. Most of them were serious; in five, other methods, including Schultze's had failed.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Red Gum "Tabloids" (B. W. & Co.)

EUCALYPTUS gum, or red gum, now official but long known as a mild styptic and antiseptic and as an excellent local and general astringent, has been prepared in "tabloid" form for some time. Recently certain improvements have been effected in the formula. Great care has been exercised so to adjust the relative proportions of the ingredients that the full therapeutic effect of the drug may

be obtained without offending the palate or affecting the appetite. When a red gum "tabloid" is allowed to dissolve slowly in the mouth, the continuous action of the drug on the mucous membrane of the throat is fully secured. Red gum "tabloids" are supplied in bottles containing 100 in each. They are very palatable and even refreshing in the mouth.

Aluminium Hypodermic Case.

MESSRS. OPPENHEIMER & CO., of London, have recently introduced a hypodermic case, which presents some novel and interesting features. It is one of the neatest, lightest, and most perfectly equipped instruments of the kind that we have ever seen. It is very portable, and when taken out of the pocket presents an attractive and even ornamental appearance. The case, of which the accompanying illustration will give a good idea, is fitted with



12 tubes assorted of soluble hypodermics, which are moulded and not compressed, so as to be easily dissolved in a few minims of water contained in the barrel of the syringe. The case also contains a hypodermic syringe of English manufacture, two ordinary hypodermic needles, and one exploring needle. The case itself is of aluminium, light and very durable. The metallic rack can be taken out of the case, and any tube required may then be selected therefrom. This case has the advantage of the contents not becoming displaced or shaking about when carried in the pocket. It is supplied fitted complete for twenty shillings sterling.

THE DUBLIN JOURNAL

OF

MEDICAL SCIENCE.

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THE DUBLIN JOURNAL

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MEDICAL SCIENCE.

JUNE 1, 1897.

PART I.

ORIGINAL COMMUNICATIONS.

ART. XXII.—*Angina Pectoris*.^{*} By JOHN KNOTT, M.A., M.D., Ch.B., and Dip. Stat. Med. (Univ. Dubl.); M.R.C.P.I.; M.R.I.A.; Fellow of the Royal Academy of Medicine in Ireland; &c.

(Continued from page 378.)

To the subsequent account of this complaint which Heberden included in his "Commentaries on the History and Cure of Diseases," the following note is appended:—"Cælius Aurelianus, as far as I know, is the only ancient writer who has noticed this complaint, and he but slightly: 'Erasistratus memorat paralyseos genus, et *paradoxon* appellat, quo ambulantes repente sistuntur, ut ambulare non possint, et tum rursum ambulare sinuntur.'" Other descriptions of the more prominent features of the clinical entity now universally known as *angina pectoris* have since been exhumed by other explorers in this department of medical literature. Parry ("An Inquiry into the Symptoms and Causes of the Syncope Anginosa, commonly called *Angina Pectoris*") has quoted Seneca's description of his own symptoms; and Professor Osler, of the Johns Hopkins University, Baltimore, has reproduced the translation given by Parry of a part of the forcible account of his sufferings

^{*} Read before the Section of Medicine of the Royal Academy of Medicine in Ireland, Friday, April 9, 1897.

which was given by the Roman philosopher: "The attack is very short and like a storm. It usually ends within an hour. I have undergone all bodily infirmities and dangers; but none appears to me more grievous. Why not? Because to have any other malady is only to be sick; to have this is to be dying." To this very vivid statement of the intensity of his sufferings Seneca adds that his physicians called the disease from which he suffered a *meditatio mortis*. Forbes and Gairdner regard this case as one of true angina pectoris, although Parry did not.

A still more indisputable case is to be found portrayed in that vast clinical mine of symptomatology and morbid anatomy, the *De Sedibus et Causis Morborum per Anatomen indagatis* of Morgagni. (*Lib. II. Epist. XXVI.*):—

MATERFAMILIAS duos & quadraginta annos nata, diu valetudinaria, diuque obnoxia vixerat paroxysmo cuidam ad hunc modum se habenti. A concitatis corporis motibus ingruebat molestus quidam angor intra superiorem thoracis sinistram partem, cum spirandi difficultate, & sinistri brachii stupore: quæ omnia ubi motus illi cessarent, facile remittebant. Ea igitur mulier cum circa medium Octobrem A. 1707. Venetiis in continentem trajecta, rheda veheretur, lætoque esset animo, ecce tibi ille idem paroxysmus: quo correpta, & mori se, ajens, ibi repente mortua est. CADAVER in urbem vectum, cum postridie a notis inspicereetur, . . Cor potius magnum, & durum valde, ac robustum. Aorta ad curvaturam non parum dilatata, justa alibi in trunco, ramisque majoribus latitudine. Sed intus, ubicunque incideres, hic illic inæqualis, nec sine osseis perfectis squamulis, nedum crebris inchoatarum indicia. Quæ cum videremus; universum truncum, majoresque ramos aperuimus: in illoque ab ipsa origine pone Semilunares valvulas, quæ duræ hic illic erant, et cum futuri ossis initus ad Iliacas usque arterias descripta vitia animadvertimus. Per has tamen, perque alias, etiam superiores, ac nominatim Subclaviam sinistram minime propagabantur, si primam excipias alterius illius, arteriæ partem, quæ Carotidi, & Subclaviæ dexteris originem præbet. Hinc oculos ad cor referentes, & ad cetera quæ ipsi annexa sunt, vasa, nihil usquam conspeximus vitii, nisi quod Pulmonaris venæ

caudex paulo visus est æquo major. In hoc, & in adjecto ventriculo sanguis erat paucus, isque, ut aliis omnibus in locis, niger et omnino fluidus. Sed in Pulmonaris arteriæ trunco non paucus; quanquam in ventriculo dextero, ejusque auricula nullus, facile quia per venam Cavam, paulo ante infra jecur incisam, defluerat. . . .”

There can be no second opinion, I think, of the genuineness of the group of symptoms here given, and of the value of the description of the state of the vascular system which is so usually found associated therewith. The following case I also regard as one of true angina:—

N. Ferrarinus, Sacerdos Veronensis, qui olim Venetiis phthisicus fuerat judicatus, Patavii autem ante decem annos hemicrania laboraverat, nunc anno exacto quadragesimo tertio, canutus, facie interdum nimis rubicunda, gracili corporis habitu, nec tamen macilento, etsi alacer ad actiones, lætusque videbatur, gravibus quas dissimulabat, curis vir alioquin ad iram pronus, valde anxius erat: queri autem solebat de quibusdam intra thoracem doloribus, quorum sedem manu sterno imposita designabat. Quin pridie se non bene habere, Chirurgo dixerat, ideoque remediis uti quam primum velle opportuno illo anni tempore; erat autem mensis ille Majus quo Tita, atque alii in hac urbe repente obierant; quamvis tempestate sicca, et calida facta; nonus jam esset dies ex quo id acciderat nemini. Cænatus est tamen cum hospitibus hilariter; sed intra modum: nec sane, seu copiam, seu qualitatem attendas, peccare in cibis, aut potionibus consueverat. At summo insequenti mane in lecto mortuus inventus est, supinus, habitu dormientis, sine ulla ad os spuma, tantum brachiis adeo rigidis, ut sine vi diduci non posse, viderim, cum antequam advesperasceret domum ejus venissem cum Collegis meis Professoribus Medicinæ Primariis. Cadaveris facies, & cervices, & dorsum, & latera ex suburbro livebant. . .

“In Pulmonibus, excepta sanguinis copia nihil fuit quod adnotaremus. In pericardio nil ferme humoris. In cordis ventriculo dextro polyposa concretio. Tricuspidum valvularum fibrillis ex parte implicita, tres aut quatuor digitos longa, sesquidigitum lata, structura valde compacta; ut qui polypos facile ponunt, hanc pro polypo ante mortem

genito habere potuissent. Cum ea sanguis ater semiconcretus, qualis et in proxima auricula. In ventriculo sinistro sanguis minus coagulatus, pauciorque. Ejus columnæ quasi inflammatae, Semilunares valvulae paulo quam æquum esset, duriores. Arteriæ Magnæ truncus a corde ad eum usque locum unde incipit descendere, exterius quidem facie inæquali non secus ac si in tuberum modum quadantenus hic illic assurgeret: sed interius toto eo spatio nihil, nisi superficies rugosa, vix duobus locis, iisque exiguis indicia necdum maturæ ossificationis: cætera per dorsum, et in cunctis ascendentibus ramis naturali superficie.”—(*Lib. I., Epist. IV.*)

A curiously interesting item in the early literary history of angina pectoris is the fact that the perusal of Dr. Heberden's original description of this symptom-group elicited a letter to him on the subject, which, as Professor Osler truly observes, contains one of the best descriptions of the condition. Heberden's first communication on the subject was read at the College of Physicians (London), July 21, 1768. On November 17, 1772, he read another paper on the same subject, the commencing portion of which forms, perhaps, the most instructive contribution which has hitherto been made to the now voluminous literature of this subject. It opens as follows:—

“Soon after the publication of the second volume of the Medical Transactions I received the following anonymous letter:—

“‘SIR,—Seeing among the extracts from the Medical Transactions in the *Critical Review* of last month, your account of a disorder, which you term the *angina pectoris*, I found it so exactly corresponds with what I have experienced of late years, that it determined me to give you such particulars as I can recollect at those times to have felt, more especially as some sensations have frequently led me to think that I should meet with a sudden death. I am now in the fifty-second year of my age, of a middling size, of a strong constitution, a short neck; and rather inclining to be fat. My pulsations at a medium are about 80 in a minute; the extremes, when in a perfect state of health, beyond which I scarcely ever knew them, 72 and

90. I have enjoyed from my state of childhood so happy a state of health as never to have wanted, nor taken, a dose of physic of any kind for more than twenty years. As well as I can recollect, it is about five or six years since that I first felt the disorder which you treat of; it always attacked me when walking, and always after dinner or in the evening. I never then felt it in a morning, nor when sitting, nor in bed. I never ride, and seldom use a coach, but it never affected me in one. The first symptom is a pretty full pain in my left arm a little above the elbow; and in perhaps half a minute it spreads across the left side of my breast, and produces either a little faintness, or a thickness in my breathing; at least I imagined so, but the pain generally obliges me to stop. At first, as you observe, it went off instantaneously, but of late by degrees; and if, through impatience to wait its leaving me entirely, I resumed my walk, the pain returned. I have frequently, when in company, borne the pain, and continued my pace without indulging it; at which times it has lasted from five to perhaps ten minutes, and then gone off, as well as I can recollect, rather suddenly, as it came on, than lessening gradually. Sometimes I have felt it once a week; other times a fortnight, a month, or a longer time, may elapse without its once attacking me; but, I think, I am more subject to it in the winter than in the summer months. As, when the pain left me, I had no traces of having the least disorder within me of any kind, either from spitting blood, or any corrupted matter, nor ever entertained the least thought of any abscess being formed, I never troubled myself much about the cause of it, but attributed it to an obstruction in the circulation, or a species of the rheumatism. I shall now proceed to acquaint you with those sensations which to me seem to indicate a sudden death, but which, not being concomitant with the above-mentioned disorder, I am ignorant whether they are to be attributed to it or not. I have often felt, when sitting, standing, and at times in my bed, what I can best express by calling it an universal pause within me of the operations of nature for perhaps three or four seconds; and when she has resumed her functions, I felt a shock at the heart, like that which

one would feel from a small weight being fastened to a string to some part of the body, and falling from the table to within a few inches of the floor. At times it will return two or three times in half an hour; at other times not once a week; and sometimes I do not feel it for a long time; and I think I have been less subject to it for a year past than for several former ones. As you have mentioned several, who within your own knowledge have died suddenly, that were troubled with the *angina pectoris*, I suspect they were subject to what I have delineated, as I think that much more likely to occasion a sudden death than either of the causes to which you attribute it. But, be the cause what it may, if it please God to take me away suddenly, I have left directions in my will to send an account of my death to you, with a permission for you to order such an examination of my body as will show the cause of it; and, perhaps, tend at the same time to a discovery of the origin of that disorder, which is the subject of this letter, and be productive of means to counteract and remove it.

“I am, sir, yours,
“‘UNKNOWN.’”

Another extraordinary coincidence in the history of this interesting case is then given by Dr. Heberden:—"In less than three weeks after he had sent this letter I was informed that in the midst of a walk, which he was taking after dinner, he leaned against a post, and begged a passenger to assist him, by whose help he reached a neighbouring house, where he vomited much and was bled, but died in less than half an hour." The *post-mortem* examination was made by the great John Hunter at the request of Dr. Heberden. "But, upon the most careful examination, no manifest cause of his death could be discovered . . . the heart with its vessels and valves were all found to be in a natural condition, except some few specks of a beginning ossification upon the aorta. . . . The left ventricle of the heart was remarkably strong and thick, and as perfectly empty of blood as if it had been washed. . . . It was very remarkable that the blood was nowhere coagulated, and did not coagulate even after being more

than two hours exposed to the air; but at the same time could not be called perfectly fluid, being of the consistence of thin cream; but there was no separation of any of its component parts." This fluidity of the blood after death from angina pectoris has been noticed in other cases, as I will have occasion to notice afterwards.

Of the series of published cases and comments on this disease, which appeared within the few years after Heberden's original description, I am glad to be able to say that one of the most instructive and most skilfully-reported came from our own country. On the 3rd of November, 1776, Dr. David MacBride, of Dublin, made a communication on this subject to his friend Dr. Fothergill, of London, to be read before the Medical Society. It contains the following case, which had been conveyed to him by letter from a medical friend whose name he does not publish. Being peculiarly interesting, both in the symptomatology and therapeutics, I extract it in full:—

"A. B., a tall, well-made man, rather large than otherwise; of healthy parents, except that there had been a little gout in his family; temperate, and being very attentive to the business of his trade (that of a watch-maker); had led a life uncommonly sedentary. From a boy had been remarkably subject to alarming inflammations of his throat, which seized him at least once in the course of the year; in all other respects well.

"In 1767 (then forty-eight years of age) he was taken, without any evident cause, with a sudden and very dispiriting throbbing under his sternum; it soon afterwards increased, and returned upon him every third or fourth week, accompanied with great anxiety; very laborious breathing; choking; a sensation of fulness and distension in his head; a bloated and flushed countenance; turgid and watery eyes; and a very irregular and unequal pulse. The paroxysm invaded almost constantly while he was sitting after dinner; though now and then he was seized with it in the morning, when walking a little faster than usual; and was then obliged to stop, and rest on any object at hand: once or twice it came on in bed, but did not oblige him to sit up, as it was then attended with no

great difficulty of breathing. In the afternoon fits, his greatest ease was from a supine posture, in which he used to continue motionless for some hours, until, quite spent and worn out with anguish, he dropt into a slumber: in the intervals between these attacks, which at length grew so frequent as to return every four or five days, he was, to all appearance, in perfect health.

"Thus matters continued for more than two years; and various antispasmodics were ineffectually tried for his relief. In 1769 there supervened a very sharp constrictory pain at the upper part of the *sternum*, stretching equally on each side, attended with the former symptoms of anxiety, dyspnoea, choking, &c., and with an excruciating cramp, as he called it, that could be covered with a crown piece, in each of his arms, between the elbow and the wrist, exactly at the insertion of the *pronator teres*: the rest of the limb was quite free. The fits were sometimes brought on, and always exasperated, by any agitation of mind or body. He once attempted to ride on horseback during the paroxysm, but the experiment was near proving fatal to him. The difference of season or weather made no impression on him; still, in the intervals, his health was perfectly good, except that his eyes, which, before his illness, were remarkably strong and clear, were now grown extremely tender, and his sight much impaired; he had no flatulency of his stomach, and his bowels were regular.

"In this situation, Feb. 22, 1770, he applied to me for assistance. I had seen, I believe, eight or ten of these frightful cases before; and two of the patients dropped down dead suddenly. They were men between forty and fifty years of age, and of a make somewhat fleshy; the fate of the others I was not informed of; or, at least, cannot now recollect.

"Having formerly found the total inefficacy of blisters, and the whole class of nervous medicines, in the treatment of this anomalous spasm, I thought it now right to attempt the correcting or draining off of the irritating fluid. To this purpose, I ordered a mixture of *aq. calc. mag. c.* with a little of the *aq. juniperi com.* and a small proportion of

Huxham's antimonial wine; as an alterative, I put the patient on a plain, light, perspirable diet; and restrained him from all viscid, flatulent, and acrimonious aliments. By pursuing this course he was soon apparently mended; but after he had persisted in it regularly for, at least, two months, he kept for some time at a stand. I then ordered a large issue to be opened in each of his thighs. One only was made; however, as soon as it began to discharge, his amendment manifestly increased; the frequency and severity of the fits abated considerably; and he continued improving gradually, until, at the end of eighteen months, he was restored to perfect health; which he has enjoyed without the least interruption till now, except when he has been tempted (perhaps once in a twelvemonth) to transgress rules, by making a large meal on salted meat, or indulging himself in ale, or rum punch (each of which never failed to disorder him from the beginning of his illness); and even on these occasions he has felt no more than the slightest notice of his former sufferings; insomuch that he would despise the attack if it did not appear to be of the same stock with his old complaint. No other cause has had the least ill effect on him. Though rum was so constantly hurtful, yet punch, made with a maceration of black currants in our vulgar corn spirit, is a liquor that agrees remarkably well with him. He never took any medicine after the issue began to discharge; and I have directed that it shall be kept open as long as he lives. The inflammations of his throat have disappeared for five years past; he has recovered the strength and clearness of his sight; and his health seems now to be entirely re-established."

This treatment, which would probably find few advocates among the advanced scientific physicians of the last decade of the nineteenth century, was adopted by the celebrated Dr. Erasmus Darwin, the grandfather of the still more famous Charles. In a volume published in 1796 he tells us: "Four patients I have now in my recollection, all of whom I believed to labour under the angina pectoris in a great degree; which have all recovered, and have continued well three or four years by the use, as I believe,

of issues on the inside of each thigh; which were at first large enough to contain two peas each and afterwards but one. They took, besides, some slight antimonial medicine for a while, and were reduced to half the quantity or strength of their usual potation of fermented liquor." This distinguished physician goes on to give "Dr. MacBride, physician at Dublin," credit for having first recommended the use of "femoral issues" in angina pectoris; and proceeds to add: "I was further induced to make trial of them, not only because the means which I had before used were inadequate, but from the ill effect I once observed upon the lungs, which succeeded the cure of a small sore beneath the knee; and argued conversely, that issues in the lower limbs might assist a difficult respiration."

Proceeding to comment on the above case, Dr. MacBride makes the following very interesting observation:—"This very alarming disease is not so common in this country as it appears to be in England; as the gentleman who furnishes the above history has not, in near forty years' most extensive practice, met with more than eight or ten cases; and it is now above six years since he has heard of any—a sure proof of its not being frequent, since, if it had, he undoubtedly would have been often consulted. I have also, within these few days, conversed with some more of our most eminent practitioners, who have seen a great deal of business; but not one of them remembers any case exactly similar to the present, or those which have been so graphically described by yourself and Dr. Heberden. For my own part, I have never met with one; but if I may be allowed to turn theorist on this occasion, I should ascribe the exemption to two circumstances, wherein the people of the two kingdoms materially differ: the one, respecting the proportional numbers of sedentary persons; the other, regarding the general course of living. In England, and especially the capital, at least fifty people are occupied in the several branches of the finer mechanic arts, for one that is so employed in Ireland; and the posture, in which the most part of these ingenious artists are constrained to sit at their work, necessarily tends to impede the circulation through all the parts contained in the *thorax*.

With you, men of all ranks certainly eat larger quantities of gross animal food, and drink more freely of malt liquors and sophisticated wines, than we do; for our lower sort may be said to live entirely on a vegetable and milk diet; and those who are in anything like easy circumstances constantly drink either punch or wines, especially French; and our port, as yet, is brought to us entire from abroad; the vintners not having found out the way of brewing it at home. Hence, I presume, it is that we much seldomer see morbid degrees of obesity than you do; and from all the dissections of persons who have been carried off by the disease in question, it appears that an increase of fat is, at least, one predisposing cause. The immediate paroxysm, indeed, seems to depend on a spasm of the heart, which, we may well believe, can only take place in an inferior degree, as long as the patient continues to survive the fits; since a spasm here, of any violence or duration, must infallibly prove fatal. . . .” The keen observations embodied in the above quotation have been well corroborated by the collective experience of other physicians: that the disease is English above all things, one of high life and good feeding rather than of the opposite conditions, and occurring preferably in subjects with a tendency to fatty disposition, are facts attested by universal experience.

(To be continued.)

ART. XXIII.—*Clinical Pictures of Children's Diseases.* By
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(Continued from page 401.)

DYSPEPTIC DIARRHŒA.*

THIS common affection is frequently neglected until it has existed for a long time or has become alarming. We have seen that it is produced by feeding which is either improper, excessive, irregular or unwholesome, but also that in most cases fermentative changes are present from the toxic effects

* Read before the Medical Section of the Royal Academy of Medicine in Ireland, on Friday, April 9, 1897.

of bacterial organisms which abound in their food. Violent irritation may also produce it, and the inflammation of a vaccinated arm originated one of the worst cases I have seen.

Dr. Soltau Fenwick, of the Evelina Hospital, lends his authority to emphasise these two facts:—

1st. That diarrhoea is the direct result of bacterial activity which produces abnormal fermentations, and inflammation of the stomach and intestines.

2nd. That the intestinal trouble is primarily dependent on gastric indigestion, and that this must be first set right. Selecting some of the chief attendant characteristics or "symptoms" we observe:—

1. *Restlessness*.—Peevishness, discomfort and fretfulness, wakefulness or irritability.
2. *Abdominal Pain*.—Griping, sometimes severe colic, the child screaming and writhing until the bowels move. It wakes with pain, passes a loose motion, gets quiet after the stool, and, perhaps, falls asleep again. The so-called "lightning contractions" of Henoch.
3. *Frequent Stools*.—They are often grass green, resembling chopped spinach, and slimy. They may be watery, or, at first, normal and merely fæculent, always foul smelling and often very mucoid. Sometimes they are profuse—*e.g.*, ten a day for a child five years old. In one case the motions for eleven consecutive days numbered 3, 11, 15, 17, 7, 3, 1, 1, 3. They usually contain undigested food, and curdy flakes of casein are nearly always present.
4. *Thirst*.—The mouth is dry, and the child will usually drink water freely.
5. "*Facies*" of *Diarrhoea*.—If severe, the mouth of young infants is "pursed" to a round hole as if the child were going to whistle! The eyes are sunken and the skin is cold.

Then there may be vomiting, convulsions, twitching of the hands, sour smell from the mouth, and in severe cases collapse with a depressed fontanelle.

In diagnosis every organ should be examined to exclude other affections, and we should never forget the possibility of there being an intussusception. If there is tenesmus,

pain, great urgency, or a fulness in the iliac regions, suspicion must be cast on the case, and the rectum should then be examined with care.

Its duration may be from a few hours to a week or ten days. I have seen it end in very acute dysentery. Intertrigo from excoriation of the nates, and prolapsus recti are troublesome complications, and collapse of the lung is likely to occur, with all the dangers of feeble respiration. This disorder should not end fatally if well treated in a healthy child. Any chronic disease co-existing is most dangerous. For instance, a child of 5 years old, who was under my care for rheumatoid arthritis which crippled it for three years previously, was suddenly and unaccountably attacked with very bad diarrhoea which could not be arrested, and died in three days. In this case I had an opportunity of examining the bowel afterwards, but I found the entire intestine perfectly normal to the naked eye.

There is no characteristic *post-mortem* change. Those who have recorded fatal cases say many reveal no change at all, while some merely show a streaky ecchymosis here and there. It is natural to expect that during life these cases would present vascular injection of the coats of the bowel, but this, if it does exist, disappears after death.

Chronic Cases.—Sometimes a child is brought only after months of diarrhoea and emaciation. It is often popularly said to have “consumption of the bowels.” It is sometimes associated with chronic wasting disorders: syphilis, rickets, tubercle, and with whooping-cough or measles. Some cases exhibit after death foreign bodies swallowed by the child, chips of timber, shells, chalk, leaves, currants, &c.; while bad air, dirt, and exposure develop a considerable number. Deficiency of evacuation keeps up the mischief. Foul material lies in perpetual contact with the mucous membranes, and fermentation aggravates the condition.

These cases exhibit a different and more miserable aspect. The following will be observed:—

1. *Emaciation.*—Scarcely any disease wastes a child so much as prolonged and severe diarrhoea. The mother often “does not know why.” There is slow wasting, the child growing older, but not larger. It has a

pinched, "monkey-like face," and is stunted in growth, leaving the head only very large. Observe the neck. It is very thin. The child has a shrivelled skin, especially noticeable over the adductors of the thighs.

2. *Frequent Stools*.—Three, six, or eight per day. Sometimes many more. They are very offensive and often termed "putrid," having a sour, intolerable stench. Undigested food is passed with coagula of casein; mucus is voided in slime and shreds. They are sometimes large in proportion to food taken, and foreign materials may be seen in the discharge.
3. *Fretfulness*.—The child is nervous, sleepless, restless, and evinces bad temper, constantly "whingeing" or "grizzling" in a miserable manner.
4. *Œdema*.—Sometimes general anasarca is found in severe cases when the wasting is extreme. It is seen about the ankles, and the heart and kidneys may be perfectly sound.
5. *Pains* of a griping, colicky nature in the abdomen from distension or peristalsis, which latter may be visible, and followed by a loose motion.
6. *Flatulence*.

Then there may be prolapsus recti, appetite sometimes greedy and voracious, and the more it eats the thinner it becomes, as the stools are multiplied. "As soon as food is taken, it goes through it!" "The wasting now proceeds rapidly, the child gets hollow-eyed, wrinkled, and old-looking. His belly swells from flatulent distension. His limbs often become œdematous. He is excessively feeble. The urine is diminished in quantity if the purging is severe, and the child sinks into a state of exhaustion, and dies of asthenia."^a All the symptoms designated "spurious hydrocephalus" or "hydrocephaloid" disease may be present before death. They signify extreme exhaustion, the child lying insensible, with sunken eyes and irregular breathing.

The most difficult question to answer is—"Is it tubercular disease with ulceration of the bowel?" Tubercle is less frequent under two years of age, and rare under eighteen months. Tubercular ulceration may be suspected in a child

^a Dr. Eustace Smith.

over two years of age in whom diarrhoea is obstinate—there is much wasting, with pain after food; brown, watery, offensive stools, and borborygmi. In abdominal tubercle I have repeatedly noticed a peculiar expression in those cases which have chronic diarrhoea. Jadot's lines are well marked, the child has a sickly yellowish face, exactly descriptive, to my mind (if you can imagine it), of having been given a "sour emetic." If many cases of abdominal tubercle with diarrhoea are examined, this sour emetic "facies" will be seen in a great number of them. It contrasts wonderfully with the rosy-apple cheeks of many other of these tubercular cases. Tubercle also has frequently a rough skin, with indican in the urine. I have also observed a peculiar tubercular smell on examining these children. It is striking, and is not a faecal odour. Enlargement of the glands in the groins, axillæ, and triangles of the neck is very strongly in favour of tubercle.

Diarrhoea may, of course, accompany other diseases, which must be sought for—*e.g.*, lardaceous, malignant, splenic, or uræmic conditions.

Frequent relapses and the gradual but continued loss of strength renders the child physiologically bankrupt, and it dies exhausted by the drain on its system. Chronic diarrhoea with ulceration of the bowel is a very favourable condition for the infection of tubercle, the unhealthy individual being unable to resist its attack.

Co-existence of disease renders recovery doubtful. Rickets, syphilis, tubercle, scurvy, or diarrhoeal affections in the family are bad. The older the child the better the chance. Œdema signifies a severe case, and collapse is always dangerous.

There is a peculiar appearance often found in the bowel of children dying from diarrhoea—*i.e.*, a slaty blue or black dotted condition in large patches. It has the exact appearance of a "shorn beard." It has been attributed to altered blood lying around the minute ulcerations of the solitary glands, and if once seen cannot be forgotten.

There may be also enlargement of the solitary glands with abrasion, or ulceration, or large extensive ulcers. Tubercles may also be seen, but there is no constant change found.

NOTE.—This dyspeptic diarrhoea is variously described in older works under the titles "Muco-enteritis," "Mild intestinal catarrh," "Catarrhal enteritis," "Non-inflammatory diarrhoea," "Mechanical diarrhoea," "Irritative diarrhoea," "Acute intestinal indigestion," and "Simple diarrhoea." The more chronic cases are spoken of by authors as "Chronic entero-colitis," "Chronic catarrhal diarrhoea," "Chronic intestinal catarrh," "Chronic irritative diarrhoea," and "Chronic intestinal indigestion."

INFECTIVE DIARRHOEA.

This disease, as we have seen, has only lately been understood. It may be taken in a measure as a sanitary index of large towns. Everything points to its bacterial origin, and we can no longer doubt but that it is microbic.

The profound nervous prostration out of proportion to the amount of diarrhoea, and the deaths of many after all discharges have ceased, strongly point to a definite poison. It is, in most cases, directly produced by infected milk. Some of these poisons have been isolated. Dr. Vaughan has separated from poisonous and stale milk a crystalline substance, called by him "tyrotoxin" (cheese poison). This produces vomiting, purging, collapse, and death in a short time, leaving no change *post mortem* but blanching and softening of the intestinal mucous membrane, precisely similar to the condition found after "choleraic diarrhoea," which this disorder in question is sometimes called. Drs. Vaughan and Booker have also isolated several poisons from cultures derived from the intestines of choleraic infants. Hypodermic injections in kittens, puppies, and guinea pigs speedily produced vomiting, purging, collapse, and death. The varieties described as summer diarrhoea and cholera infantum are only ones of degree, and great simplicity is obtained by terming them both infective diarrhoea. They are pathologically identical, and the symptoms are due to direct absorption of organic poisons from the stomach or intestine. The line of demarcation between them is indefinite and useless.

This complaint sometimes rages as an epidemic. It practically never occurs in breast-fed children (at least in only

three per cent.). Whitla emphatically says, "Sterilised milk is a perfect safeguard against ordinary summer diarrhoea and the more severe cholera infantum." We can understand that it is rarely seen in country districts.

Neglect or deficiency of ventilation seems to be a very important cause, and the bacteria in question appear to inhabit the superficial layers of the earth, becoming widespread when the temperature reaches 58° F.

The symptoms of a severe infective diarrhoea are most remarkable; its severity is appalling. Selecting the five most important we observe:—

1. *Collapse and Stupor*.—There is gradually increasing unconsciousness; the child lies in a drowsy, listless, apathetic state, with half-closed eyes, as if it was dosing or half-asleep. It may be actually comatose or even moribund when seen. The eyes are dull, hollowed, and deeply sunken into the scooped-out orbits, and the cornea is smeared with a mucoid film. This opacity and dimming of the cornea is believed by Hensch to be a fatal sign, its tissue being dried up, and certainly most cases of cholera die. The fontanelle is depressed and hollowed, and, if extreme, the bones of the skull may overlap from the shrinking of its contents. The pulse is small, thready, excessively feeble, and fast, and often we fail to find it, or to count it when perceived. The respiration is shallow and weak, but sometimes resembling Cheyne-Stokes breathing in the loud exaggerated sigh which is occasionally drawn. The features are much drawn, pinched, and shrunken, the nose being sharpened and the cheeks falling in. They are frequently shrivelled and corpse-like. The face is faintly livid and old-looking, and the dark shadow round the sunken eyes, with the pallid, earthy complexion, gives the child a deathly cadaverous appearance. The skin is clammy and the extremities very cold. It is possible that this condition may be mistaken for cerebral effusion, but they are very different. This collapse from severe diarrhoea is strikingly characteristic. It exactly resembles a case that has almost "bled to death." In past years it certainly has been mistaken for cerebral effusion and termed the hydrocephaloid state, but out of a very large number that I have seen and carefully noted, only one in

particular has struck me by any very serious resemblance. It was that of a child who had been in bed for some days for summer diarrhoea. It became worse, and instead of finding it awake and fairly bright on visiting it next day it was comatose, breathing irregularly; it had vomited; its eyes were turned up under the lids, and there was a faint flush about the face. Since last seen a casual observer, standing at the foot of the bed, would have said that cerebral effusion had come on.

It is peculiar cases such as this that, no doubt, led to the designations "hydrocephaloid disease," or "spurious hydrocephalus," and to the errors sometimes made in diagnosis, but this collapse from continuous diarrhoea in young infants when once seen can hardly ever be forgotten. The cerebral symptoms are due to the enfeebled circulation in the brain, and the most extreme general debility. To my mind it closely resembles a case that had bled excessively—and in reality it is so—except that the flux has been through the channel of the intestine. A little thought will, therefore, distinguish it from meningitis, since there is—

No ocular paralysis.

No rise of temperature.

No headache.

No tension or bulging of the

No rigidity or retraction.

fontanelle.

No constipation.

It is necessary only to mention these to show the extreme difference between the two conditions, and because in past times they have been confounded. This collapse in fatal cases leads on to deeper coma and death, with perhaps a few faint convulsions or twitching of the limbs, and the child's life goes out like a lamp.

2. *Sudden Vomiting.*—At first the contents of the stomach and then watery mucoid fluid.

3. *Purging.*—Sometimes continuing incessantly with the vomiting till the child is profoundly collapsed and dies in a few hours. The motions very quickly pass from ordinary loose fæculent stools to watery serous or rice water discharges. They have a "musty" odour, but are not offensive. They may be very profuse, ten to twenty or more stools being copiously voided in twenty-four hours; often when first seen the diarrhoea has been raging for several days, and the child

is brought on account of its collapsed condition. In these cases there may really be no motions when seen by the physician, and it must be recollected that many children will die thus, after the vomiting and purging have ceased. The discharge is almost pure blood-serum, and scarcely stains the napkins, and it is usually devoid of colour.

4. *Thirst*.—This is extreme from the loss of water. The child cannot speak, but lies on its back sucking or tasting its lips, often opening its mouth, expressing its feelings graphically, and greedily swallows spoonfuls of water when given.

5. *Rapid Wasting*.—Scarcely any disease wastes a child so quickly. It is sometimes extreme. There is loss of muscular tone, and flabbiness, the child is perfectly “limp,” the soft parts are shrivelled down upon the bones, and the body is dwindled and shrunken. Wasting is best seen on the inner sides of the thighs. The skin is inelastic and hangs in folds.

Albuminuria is stated by Von Hofsten to be a characteristic symptom, and he states he has observed it in 998 cases. The urine is certainly scanty, so much so indeed that there is difficulty in collecting it.

These children when seen are sometimes so completely collapsed and moribund that a regular physical examination would almost certainly kill them unless very gently conducted, but fortunately the symptoms are evident upon inspection. They are all signs of terrible gastro-intestinal irritation.

The diagnosis can hardly be mistaken. Cerebral effusion may perhaps be simulated by a case now and then in the so-called “hydrocephaloid” condition if it is suddenly sprung upon the practitioner in this state, but they are very distinct. The chief contrasting or opposing conditions are:—

Hydrocephaloid state from

Diarrhœa.

Diarrhœa.

No ocular paralysis.

No rise of temperature.

No headache.

No tension or bulging of the fontanelle.

No rigidity.

No retraction.

Cerebral Effusion

(as in tubercular meningitis).

Constipation.

Ocular paralysis and squint.

Slight feverishness.

Headache (if old enough to complain).

Bulging fontanelle.

Rigidity and retraction in many cases.

I have seen one case closely simulate acute irritant poisoning, and present many of its signs after death as well.

Another form of "hydrocephaloid" I have seen in older children—about seven years of age—where a child may be brought perfectly collapsed, with headache, vomiting, confined bowels, sensible when roused, but delirious at night. These symptoms strikingly resemble cerebral mischief, but may all arise suddenly from food-poisoning—an abdominal case closely simulating cerebral effusion.

The great danger is the collapse. The younger the child the graver the case. Evacuation is nature's method of relief, but the child may die during the eliminative process. It frequently dies of the poisoning, and not of the flux.

The prognosis in collapsed cases is exceedingly bad. They almost invariably die. Their life seems to flicker out like a lamp.

The morbid appearances in cholera infantum reveal nothing characteristic and constant.

The following are notes of some *post-mortem* changes which I have found:—

CASE.—A. P. was a child of seven months, who had diarrhoea and vomiting for fourteen days. It was quite well till then, and died two hours after I saw it. It had never been breast-fed, but was brought-up on cow's milk and barley water, and the milk was not boiled. No cause was known.

Twenty-six hours after death the body weighed 7 lbs. 12 ozs. Emaciation, rigor mortis just present, cervical glands, pharynx, œsophagus, larynx, trachea, all normal but pale. Bronchi contained considerable quantity of muco-pus. Lungs—a good deal of collapse of edges of both anterior lobes, and a great many patches of milky-white emphysematous lung overlapping and lying on collapsed portions, and raised high from the surface. The right anterior apex showed a triangular piece of brilliant scarlet colour, solid, and full of bright red blood.

The heart was normal, pale. Right and left cavities both contained whitish clots adherent to the muscoli papillares, and entering the aorta and pulmonary artery.

The intestines were very small and contracted—might be compared to a bag of worms of a pale purplish colour. Rectum and colon were stained inside of a port wine colour; the whole alimentary canal was absolutely empty. The lower end of the

ileum showed a scarlet patch 2 by 2½ inches just above the valve. The jejunum was of a bright golden colour internally, which washed off.

The stomach was contracted and empty, almost dry, and very white and pale.

The liver was normal, ducts free, bile very dark, and not golden like the material seen in jejunum.

The spleen, bladder, kidneys, and suprarenals were normal. The bladder was empty. No tubercle was seen anywhere. The brain was not examined.

There are always signs of terrible collapse in the features, even though the body may be fairly nourished.

In a male child of three months who died from it, twenty-four hours after death an examination revealed—

“Weight 6 lbs., emaciation, a little moisture in the bronchial tubes, with emphysema of the upper portions, and collapse of the bases of both lungs, a clot in the right ventricle of the heart, the dark bluish black dotted or ‘shorn beard’ appearance of Peyer’s patches, and a little ropy mucus in the stomach.” All the other organs perfectly normal.

Again—a female child of seventeen days weighed 6 lbs., was emaciated; there was no rigor mortis; the œsophagus was very red and inflamed in the lower two-thirds; the stomach and duodenum was red and inflamed to an extreme degree (almost suggesting irritant poisoning); the bronchi were also red and inflamed with some muco-pus in the tubes; there was emphysema of the upper and anterior portions of the lungs, with collapse behind, and all the other organs were normal. The foramen ovale was just closed, but obliquely patent still.

NOTE.—This infective diarrhœa is variously described in literature as “Summer diarrhœa,” “Milk infection,” “Gastro-enteritis,” “Gastro-intestinal catarrh,” “Inflammatory diarrhœa,” “Zymotic diarrhœa,” “Epidemic diarrhœa,” “Ptomaine poisoning.” In its most intense manifestations it is recorded as—“Cholera infantum,” “Acute gastro-intestinal catarrh,” “Choleraic diarrhœa,” “Infantile cholera,” “Cholérine,” or “Acute milk infection.”

(To be continued.)

ART. XXIV.—*Ecphyma Globulus.* By H. S. PURDON, M.D. ;
Consulting Physician to the Belfast Hospital for Diseases
of the Skin, &c.

I WISH to preface the following note by first asking if *Ecphyma Globulus*, so named by Dr. Burgess and called by the Irish peasantry "Button Scurvy," is extinct? In the year 1872 I recorded, in the *Journal of Cutaneous Medicine*, Vol. IV., page 125, a notice of a case of supposed "button scurvy," and remarked that said complaint was common in the southern and western parts of Ireland during the famine years 1847, 1848, and 1849. My case was that of a girl—pale, anæmic, &c., living in one of the low and unhealthy lanes of Belfast, off Carrick Hill, since entirely swept away by our city Corporation, her cutaneous disease being characterised by an eruption of isolated excrescences, best marked on arms, presenting a convex surface somewhat resembling an ordinary button. These excrescences were about the size of a farthing. On comparing the case with a water-coloured drawing of the late Dr. M'Munn, showing the various stages of "button scurvy," the resemblance was striking. My friend, Dr. Frazer, F.R.C.S.I., of Dublin, in his valuable little book, "Treatment of Diseases of the Skin," Dublin, 1864, remarks, page 17, that "button scurvy" was common enough in Ireland during the Famine years, 1847 and 1848:—"There are no grounds (he says) for considering it (button scurvy) in any way allied to syphilis, or a modification of that disease, for it is never followed by secondary symptoms; yet it is contagious, spreading from direct contact or by means of garments soiled with its discharge. The eruption is liable to occur on any part of the body, except hands and feet. It first originates in a slight elevation or tubercle, not discoloured, dry and covered with unbroken skin. After a time this increases, the surface becomes darker and slowly softens. At last prominent red tumours are formed, resembling raspberries in appearance, though flatter and of larger size, which continue an indefinite time, but soon heal with the free use of nitrate of silver. Sir Philip Crampton treated this disease with dilute citron and tar ointment"

(both parasitocides). However, Dr. Frazer has seen several cases of the disease under notice, and thinks that it resembles framboesia or "yaws" of the West Indies. I believe that during the last 32 years I have been in practice two cases of a similar nature have come under my notice at Belfast Hospital for Diseases of the Skin.

PERIOD OF INFECTION.

THE following rules have been adopted by the Pennsylvania State Board of Health, laying down the duration of infectiveness after certain diseases:—*Small-pox*.—Six weeks from the commencement of the disease, if every scab has fallen off. *Chicken-pox*.—Three weeks from the commencement of the disease, if every scab has fallen off. *Scarlet Fever*.—Six weeks from the commencement of the disease, if the peeling has ceased, and there is no sore nose. *Diphtheria*.—Six weeks from the commencement of the disease, if sore throat and other signs of the disease have disappeared. *Measles*.—Three weeks from the commencement of the disease, if all swelling has subsided. *Typhus*.—Four weeks from the commencement of the disease, if strength is re-established. *Typhoid*.—Six weeks from the commencement of disease, if strength is re-established. *Whooping-cough*.—Six weeks from the commencement of the disease, if all cough has ceased. Under judicious treatment the periods of infectiousness may be considerably shortened. *Length of Quarantine*.—Teachers, or children, who have been exposed to infection from any of the following diseases may safely be re-admitted to the school, if they remain in good health (and have taken proper means for disinfection), after the following periods of quarantine:—Diphtheria, twelve days; scarlet fever, fourteen days; small-pox, eighteen days; measles, eighteen days; chicken-pox, eighteen days; mumps, twenty-four days; whooping-cough, twenty-one days. Adults may be admitted immediately, if they disinfect their clothes and persons.—*Med. Rec.*

CHILD LIFE INSURANCE.

A BILL to abolish child life insurance in Massachusetts has been defeated in the lower branch of the Legislature, by 148 votes against 23, after having passed the State Senate.

PART II.

REVIEWS AND BIBLIOGRAPHICAL NOTICES.

ANNUAL REPORTS OF LUNATIC ASYLUMS.

1. *Twenty-seventh Annual Report of the Resident Medical Superintendent, and Statistical Returns of the Down District Asylum, Downpatrick, for Year ending 31st December, 1896.* Downpatrick: 1897. Pp. 69.
2. *Sixty-second Annual Report of the Waterford District Lunatic Asylum for the Year ending 31st December, 1896.* Waterford: 1897. Pp. 57.

1. THE Down District Asylum held 532 patients on the last day of 1895—279 males and 253 females. There were 128 admissions—57 males, 71 females—in 1896; 72 were discharged; 35 died; and the Asylum insane population at the end of 1896 was 553—293 males and 260 females. No one will be surprised to hear that the legitimate accommodation of the institution was largely exceeded. The excess amounted to 23 males and no less than 110 females. It does, however, cause some surprise to learn that increased accommodation will soon be provided; and other structural improvements of great value are almost completed. The capacity of the asylum will be increased to 576—288 males and 288 females. Perfection will not even then have been attained. "Assuming," Dr. Nolan says, "that all this accommodation were at our disposal on the 31st of December last, there would have been 28 vacancies on the female side, while on the male side there would have been an excess of five patients resident." Dr. Nolan continues to maintain that lunacy is not increasing. "In previous Reports," he writes:—

"The opinion was expressed that notwithstanding the large increment of lunatics in asylums there is no considerable real increase in insanity through the country generally. The official Reports of the past year confirm this opinion, and in reiterating it

the subject may be touched on for two reasons.—in the first place, because no question can be more important to you collectively as the Board of Governors of an Asylum; and in the second place, because a section of the lay and professional Press have questioned the accuracy of a view so much at variance with what they assert to be the true state of affairs. The current number of a monthly magazine, in an article entitled, ‘Which is the maddest part of the Kingdom?’ answers by statistical diagrams ‘Ireland’; but the author very properly ascribes the proportionately greater number of the insane in this country to *accumulation*. He also points out that ‘if we deal only with the *fresh lunatics admitted yearly*, . . . Ireland does not show nearly so bad a record as on the basis of total lunatics to total population.’ The question, moreover, has engaged the attention of the late and present Government, and is no less prominently under consideration on the Continent and in America. To the contention put forward last year that insanity is no more on the increase than cancer, eye diseases, or lung affections, it has been retorted that statistics go to show that those latter diseases *are* on the increase, to the extent, at least, that the figures given indicate. There is no doubt that improved methods of diagnosis, increased opportunities for treatment, and the extension of pathological research, have brought all these maladies more within the ken of medical men, who are responsible for these statistics; but that fact in no sense goes to prove that any one of the diseases mentioned has itself increased *per se*—extended intelligent observation has simply caused them to be more generally recognised.”

In support of his views Dr. Nolan quotes the following from the 45th Report (1896) of the Inspectors of Lunatics (Ireland) on the Increase of Insanity:—

“It must, however, be specially noted that while the number under care shows this large increase, the number of first admissions to District Asylums, which may be considered to represent the number of freshly occurring cases of insanity in the country, is exactly the same as in the year 1893, and shows an increase only of 7 over the corresponding figures for 1890, our first year of office, and of 10 over last year.

“The figures given strongly favour the opinion expressed in previous reports that the alleged increase of insanity in this country is mainly due to accumulation, and is, so far, an apparent and not a real increase. Such accumulation, it may be observed, is likely to continue and increase, owing to the diminishing death-

rate, subsequently referred to, amongst the patients of our District Asylum."

The General Board of Lunacy for Scotland, reporting on the Causes of the Increase of Pauper Lunacy, dilutes the same opinion in a wash of words; and the State of New York Commission on Lunacy, in its 7th Annual Report (1896) says:—"So far as the Commission is able to see, the current notion that insanity is increasing out of proportion to the normal increase in population, has little, if any, real basis to rest upon."

2. It is, perhaps, the most remarkable fact about the Waterford District Asylum that the patients are not in excess of the accommodation—the limits of accommodation being 520, while the number of patients on the 31st December was only 392. Large additions to the buildings have been recently made. Unfortunately, admissions appear to be increasing too. "The number of admissions, 92—41 men and 51 women—is higher than the average, being 14 in excess of the admissions during the previous year; but it was exceeded during the past twelve years. . . . This increase on the admission side accounts in great part for the addition to the numbers resident, there not being a corresponding increase on the side of discharges and deaths to prevent the accumulation which must inevitably occur under such circumstances. This accumulation comes to about 31 per cent. every year on an average of years."

We observe that sewage irrigation of land, apparently in the immediate vicinity of the asylum, was begun in the February of last year. It is an experiment which will need wary watching. Dr. Atkins is of opinion himself that to ensure its success considerable addition should be made to the land which receives the sewage, "as the soil, being of a dense loamy nature, does not rapidly absorb moisture, but allows the fluid to accumulate in pools, which, after a time, become unpleasant." Perhaps more than "unpleasant"? A number of cases of "gastric trouble"—"acute functional derangement of the stomach and intestinal tract"—occurred "all at one time during the summer, without any definite assignable cause." Dr. Courtenay,

the Inspector, says that to make the system "work satisfactorily a larger area must be utilised, and the land prepared so that the effluent may be carried off at once." Mr. Nelson, one of the Visiting Governors, "walked over the field in which the sewage is spread (it is now almost saturated), and, I fear, in the dry weather it will be found to give out a very unpleasant odour." We should add that Mr. Fortescue, also a Governor, reports, in September, that "the sewage irrigation is now carried on without giving any grounds for objection, and with striking results in respect of produce."

Transactions of the Royal Academy of Medicine in Ireland.

Vol. XIV. Edited by WILLIAM THOMSON, M.A., F.R.C.S.,
General Secretary; Surgeon to the Richmond Hospital,
Dublin. Dublin: Fannin & Co., Ltd. 1896. Pp. 420.

WE regret to observe that our Academy of Medicine is not increasing in numbers. It is specially to be regretted that students do not take to it. Attendance at its meetings could not fail to be useful to them. They do not seem to think so. There were three Student Associates in Session 1894-95—all three ladies.

There does not appear to be any falling-off in the number or value of the papers read before the Sections of the Academy. Fifty papers were presented, Medicine having the lion's share. In two of these Dr. J. W. Moore and Sir C. Cameron discuss, from different, if not opposite, points of view, the question of the Dublin provision for infectious fever cases. In the Surgical Section, Mr. R. H. Cox described an instrument which he had invented for "locating the important areas of the cerebral cortex on the overlying surface of the scalp." The instrument and the method of using it received high approval from the President of the Section and of the College of Surgeons (Sir Thornley Stoker), and from Dr. Heuston; and also from eminent anatomists—Professors Cunningham and Fraser. The present President of the College of Surgeons, Mr. William Thomson, contributed a valuable practical paper on Cancer of the Breast, to which, with the discussion

which followed it, we venture to call special attention. The author looks hopefully to greater success in the future in the operative treatment of this "curable affection in a fair percentage of cases."

Lectures on Pharmacology for Practitioners and Students.

By DR. C. BINZ, Ord. Professor and Geheimer Medicinal-Rath; Director of the Pharmacological Institute in the University of Bonn. Translated from the second German Edition, by PETER W. LATHAM, M.A., M.D., Fellow and late Senior Censor of the Royal College of Physicians, London; Senior Physician to Addenbrooke's Hospital. Volume II. London: The New Sydenham Society. 1897. 8vo. Pp. 451.

IN our notice of the first volume we have sufficiently indicated the scope and style of this work. In the opening section of the present volume there is an interesting account of Condurango bark and its use in cancer. Professor Binz speaks highly of the action of the drug upon the stomach, but guardedly in respect to its supposed curative action in cancer. His views and ours are summed up in these words:—

"In some cases of supposed cancer the tumour has diminished or disappeared after its use, in other cases no change has taken place. Nausea, vomiting, and pain have very frequently been considerably relieved by the prolonged use of this bark. The appetite, the digestion, the general condition and weight of the patient have improved. Consequently the continuous use of the bark is indicated in all cases of cancerous disease of the digestive canal, as well as in other affections of these organs in which there is any suspicion of cancerous mischief. The earlier the remedy is exhibited the better is the chance of success. Only large doses are of any service, the decoction or extract of 7 or 8 grammes (about 100 to 120 grains) of the bark must be given daily." (Page 16.)

The decoction must be expressed from the bark whilst hot. The "Extractum Condurango Fluidum" is prepared by macerating the bark with alcohol, water, and glycerine. Two or three teaspoonfuls may be taken daily.

Dr. Latham has performed his task of translation ably

and well, but the pages of the book are sullied by several printer's errors, such as "*Antimonium Tartartum*" (318), "*Mixtura*" (304), "*Carthartics*" (348).

In a list of "Errata" at the end of the volume we find the correction "for *arsenietted* read *arsenettet*" but the correction is more faulty than the original. The word which should be used is "*arseniureted*" or "*arseniuretted*."

We have to express our regret that the nomenclature of the German Pharmacopœia has been adopted. Such expressions as "*Tartarus stibiatus*" (page 318), "*Stibium sulphuratum aurantiacum*" (322), "*Apomorphinum hydrochloricum*" are somewhat puzzling to English readers. The translator also adopts the spelling "*Sirupus*" for "*Syrupus*," the latter actually being included in the list of errata. Surely, it was unnecessary to correct page 42 in this way—"for *Syrupus Ferri Iodati* read *Sirupus Ferri Iodati*."

At page 378 we have a most interesting and valuable description of the employment of glycerine internally for the cure of trichina disease.

Dr. Latham always uses the word "officinal" for "official." Drugs that are officinal are those which are sold in the shops, whereas "official" drugs are those which are included in the Pharmacopœia.

In a concluding section Dr. Binz directs attention to the methods by which the objects and aims of pharmacology may be attained. To him it appears that the benefit and cure of a patient should not be the exclusive aim of our scientific investigations. We should also seek to discover what results are produced in the living organism, and especially in the animal organism, by certain substances which act chemically, without reference to any therapeutic effects which such substances may have. At the same time he admits that a *human being who is suffering from disease* cannot, in any way, be regarded as a fit subject for experimental investigations. Healthy animals are incomparably better suited for this purpose than man, and from the study of disease in animals much instruction may be gained. A wide field has been opened up and a great impulse has been given to pharmacological research by the study of the lowest organisms as the

exciting causes of disease. Finally, Dr. Binz strongly holds that, as of old, we should still be guided by *clinical experience*.

To summarise: the work of the Bonn professor is refreshing from its novel and unconventional character; it is eminently scientific but no less practical; and it cannot fail to be instructive.

The Matron's Course: An Introduction to Hospital and Private Nursing. By MISS S. E. ORME, Lady Superintendent, London Temperance Hospital. London: The Scientific Press. 1897. The Burdett Series. No. 2, Cr. 8vo, Pp. 87.

IN this useful little manual Miss Orme puts Hospital Nursing in its true light as a stern reality, and its pages should be studied thoughtfully by all who wish to become nurses. She gives us concisely the special qualifications required—observation, forethought, presence of mind, gentleness, accuracy, good memory and good health, with excellent advice as to the preservation of the latter and the refreshing of mind and body in off-duty hours, by mixing in the outside world, and keeping up an interest in public affairs.

The nurse who is methodical and complete in work saves hurry, and will at least *seem* to have time for all her patient's needs, putting herself in his place and never allowing her own sensibilities to become blunted, or countenancing this tendency in others. Economy is to be studied and practised; waste can arise only where there is uneven balance, unrecognised responsibility, and serious want of discipline. The hints as to the administration of medicine and foods, with many valuable and simple recipes, will prove most useful, as will those on the ventilation and warmth of the wards and rooms in which the sick are nursed. There is a chapter devoted to the nursing of Typhoid Fever, giving much necessary information in a few pages. The whole book speaks of the true nurse, and is full of the milk of human kindness, womanly tenderness, and practical good sense.

PART III.

SPECIAL REPORTS.

REPORT ON NERVOUS AND MENTAL DISEASE.*

By RINGROSE ATKINS, M.A., M.D.; Resident Medical Superintendent, District Lunatic Asylum, Waterford.

I. CEREBRO-MENTAL DISEASE FROM THE ÆTIOLOGICAL AND CLINICAL STANDPOINTS.

The rôle of Auto-Toxis in the production of Insanity.—

At a general meeting of the Medical Society of London, held on May 11th last, Dr. Allan M'Lane Hamilton, of New York, presented a contribution on this subject. He had conducted clinical observations and experiments on animals to determine whether there was any specific or noso-toxicity of the urine of the insane, and if so, its nature; next to discover how important and general was the theory of uric acid poisoning; and, again, whether mental disorders were produced and modified by an auto-toxæmia, whether the offending substances were the leucomains or the intrinsic products of putrescence in the intestines. With regard to the existence of noso-toxisis, observations on six patients proved negative, and in rabbits the results were neither constant nor characteristic. The resulting effect seemed to depend upon the increased specific gravity of the urine, and on the evidences of intestinal disorders and malnutrition. The urine of the paretic was always exceedingly toxic, which property was possessed by that of the periodic patient whose urine showed a large amount of indican, while in only one of the other cases of mania in which the specific gravity of the urine was high was any result obtained by the injection. In regard to uric acid poisoning, he was convinced that it had not so much to do with the genesis of mental disease as

* The author of this Report, desirous that no contributions to the subject of Nervous and Mental Disease should remain unnoticed, will be glad to receive any publications which treat of it. If sent to the correspondents of the Journal they will be forwarded.

had been claimed for it. The experimental use of hypoxanthin on rabbits and monkeys had been followed by effects in only one subject. His cases unquestionably bore out the assumption that disturbances of the gastro-intestinal tract were attended with bacterial necrosis, and the introduction into the general circulation of certain very virulent toxic agents, whose effects were expended mainly on the nervous system. A sudden and rapid development of incoherence with malassimilation, highly-coloured urine, and delusions that were unsystematised, clearly suggested an inquiry into the condition of the organs of digestion, and the first step should be a complete examination of the urine and fæces. The presence of indican in the urine of the insane has great significance, for in all the cases that were not simply evolutionary it had been discovered in excessive quantities, in connection with the development or as a feature of an exacerbation of an existing mental disorder. An excessive amount might be taken to mean any amount susceptible of detection by Jaffe's test. In melancholia the amount of indican depended upon whether the disease was of the stuporous or agitated variety, the quantity not being nearly so great in the former. Variations in the hæmoglobin and red corpuscles were closely associated with the absorption of toxic substances, the extent of which was announced by the increase of the combined sulphates, while the physical appearances were those of malnutrition. Undoubtedly many puerperal insanities, especially those of the maniacal variety, were due to fæcal accumulation. Alcoholic insanities, as well as other forms, whether acute or chronic variations prevailed, must be studied with regard to the condition of the intestines. The management of these cases not only included the provision of an absolutely suitable diet, but the use of antiseptics and mechanical means for cleansing the alimentary tract. It had been shown that the lower bowel was usually the seat of infection, hence the necessity of thoroughly washing out from as high a point as possible, using a long rectal tube. Salicylate of sodium had been found the most reliable intestinal antiseptic. In replacing the diminished hæmoglobin and red corpuscles best results had been obtained from a mixture of glycerine of the red marrow of small bones with bullocks' blood.

Dr. Hamilton arrives at the following conclusions:—

1. Urines rich in indican contained very little or no pre-formed sulphuric acid, and were toxic.

2. When the sulphate ratio is materially changed it probably indicates auto-toxis, in connection with an increased amount of combined or ethereal sulphates.

3. Such indications were generally found with acute insanities in which rapidly developing symptoms occur.

4. Changing illusions and hallucinations, unsystematised delusions, confusion, with verbigeration in connection with insomnia, pallor, intestinal indigestion, constipation and rapid exhaustion are due to auto-toxis.

5. Paranoiac states, or those in which concepts are the features, chronic stuporous conditions and certain forms of dementia have little to do with the formation of intestinal products of putrefaction.

6. Various post-febrile, traumatic, alcoholic or drug insanities are those in which auto-toxis is most constant.

7. Variations in excretion of combined sulphates keep pace with the changes in the progress of an established insanity, epileptiform attacks being directly connected with putrefactive processes.

8. The most successful treatment consists in lavage, intestinal douches, gastric and intestinal antiseptics, by means of hydrochloric acid, borax, salicylate of sodium, charcoal, guaiacol, or naphthalin in small and repeated doses, and the administration of a combination of the red marrow from the small bones, blood and glycerine.

Puerperal Insanity.—From an analysis of eighty-eight cases, and a general discussion of the subject, Pianetta (*Annali di Neurologia*, XIII, Fasc. III., VI.) concludes as follows:—

1. That the so-called puerperal insanity, and especially that type developing during pregnancy, is rare.

2. That its occurrence cannot be ætiologically attributed to any specific influence of the puerperal conditions—either pregnancy, the puerperal state properly speaking, or lactation—but that these are rather to be considered as occasional causes of the disorder.

3. That the mental disorder developing during the puerperal state has no special characters sufficient to separate

it from other forms of insanity independent of the puerperium, either in its clinical manifestations or its course and termination, and it frequently appears under the forms of maniacal and stuporous confusional insanity.

4. That its prognosis is generally favourable, and its treatment should be that of mental diseases in general, and especially be based on the ætiological data, and the special form in which the disorder appears in each case.

Paranoia and Dementia.—At the session of the Psychiatrischerverein of Berlin, March 21st, 1896, Neisser (of Leubus) read a communication on this subject, which is thus reported in the *Neurologisches Centralblatt* for May 1st:—

In a recent paper on *Querulantenwahnsin* (morbid desire for litigation) Hitzig places himself on the side of those authors who affirm the essential presence of dementia in the so-called paranoiac. He says, "According to the views of the authors with whom I do not agree (Ziehen, Wernicke, Cramer and Neisser) the patient possesses his full mental capital, only on account of certain morbid processes he cannot use it like a sane man; he has no defect of intelligence, and mental weakness is only apparent, not real. In my opinion, and that of a number of other authorities, he does not possess his full mental capital, and suffers from a defect of intelligence." If one wishes to have a common ground for the discussion of this question, it must be well understood what is meant by paranoia in its more limited signification. In giving a brief historical statement as to what the authors understand by paranoia, Neisser concludes that German authorities have included under this head a number of quite different things. He excludes from the type the following forms:—

1. The so-called "*Originaeren*," characterised by their exhibiting certain peculiarities that reveal their constitutional nervous degeneracy, and that in them the existing paranoiac symptoms are not pure, but are perceptibly modified. These individuals are also from the beginning liable to spontaneous emotional disturbances, have an exceptionally developed imaginative activity, and with them a part of the psychic processes is affected outside of the range of consciousness, so that the sequence and consequence of ideas

and feelings are in some measure broken and interrupted. These signs indicate that these cases of originaire Verrucktheit fall into place near to the constitutional neuro-psychoses of hysteria and epilepsy. In them we find actual general primordial delirium in Griesinger's sense, the occurrence of which, in cases of chronic paranoia, as limited by him, Neisser would dispute.

2. Neisser distinguishes further the numerous and various conditions where in an uncongenital or acquired psychopathic basis there are certain dominating ideas, such as are frequent in hypochondria.

3. This so-called "Residualwahne," in certain phases of which the resemblance to chronic paranoia is externally quite marked.

4. The so-called secondary forms such as follow mania and melancholia.

5. All acute forms.

There remains a still large and clearly-defined group of cases, the chief clinical characteristic of which is the occurrence of chronic illusions from the beginning to the end of the disease.

Neisser does not consider the separation of chronic hallucinatory paranoia from the simpler form as justified; at least he has never seen a case run its course without hallucinations. Chronic delusions without hallucinations only occur in the so-called Querulantenwahnsin.

As regards the question of mental impairment in paranoia there is from Griesinger, who first took up the subject closely, down to Hitzig a considerable range of views among those who hold to a defect of intelligence.

According to Griesinger, the delusions of the paranoiac succeed a primary melancholic or maniacal stage. The general weakness shows itself in a dulling of the emotional reactions and the energy of the will, which has its origin in a loss of a whole series of conceptions, from the earlier life of the patient. The chief mistake of Griesinger is that he has not truly comprehended the chronic process of delusive growth, but takes instead a series of fixed delusional ideas, the origin of which he explains by the general pronounced impairment in the spheres of feeling will and ideation.

Koch, who has done good service in combating the belief

in the fixed nature of the delusions by proof of their variability, likewise claims that Verrucktheit tends to psychic weakness, not always quickly to a great extent, but still generally, to a defect in the emotional life and the will. The delusions also of the paranoiac do not often produce in him from the beginning the impression one would expect and that they would certainly produce in a sane person, who would be inclined to doubt what the paranoiac believes, even should it actually occur.

Jastrowitz takes the stand that chronic paranoia passes over into dementia, and that even in the early stages marked symptoms of this may occur, but thinks that the delusions themselves ought not to be construed as mental weakness. The impossibility of the task given by Jastrowitz of picking out the perfectly mentally sound chronic paranoiac from a great crowd of patients in itself proves nothing as to the existence of a defect of intelligence or mental weakness. If we could at one magic stroke take away every delusion from a chronic paranoiac he would still be insane as he was before.

With Kraepelin the simple fact that the chronic paranoiac cannot correct his delusions is sufficient evidence of mental weakness. The critical faculty is lost in these patients; therefore they are all mentally weakened. This statement of Kraepelin's rests, according to Neisser, on very poor foundations, both psychologically and clinically. He considers that experience does not afford the slightest basis for the correctness of the assertions made by him.

Hitzig, in his memoir already referred to, defines the mental weakness of the paranoiac as a condition of permanent mental defect, which predominantly, but not exclusively, affects the activity of the understanding. He accepts Ziehen's exposition in so far as it makes the defect of intelligence assert itself in poverty of conceptions and associative combinations. Neisser, in opposition to these observers, cannot admit that mental weakness is an essential feature of chronic paranoia. Especially is the statement that weakening of the cortical activity is a necessary precedent to the occurrence of delusions unsustained both theoretically and empirically. The outcome of the disorder is frequently, but not always, a condition of dementia. The

quantitative and qualitative expression of the same is very variable. That the morbid process itself, as a result of its pathologico-anatomical nature, is a destructive one is possible, but not yet proven.—(*Am. Journ. of Insanity.*)

Alcoholism in France.—The following figures are taken from a report by Dr. Magnan on the alcoholic population of the asylums of the Seine, as quoted by the *Progrès Médical*. No. 21, May 23rd, 1896:—

Alcoholism contributed to the population of the asylums in 1894, 775 patients—624 males and 151 females. The forms in the male comprised 282 cases of alcoholic delirium, 332 of chronic alcoholism, and 10 of absinthism. The females included 90 cases of alcoholic delirium, 60 of chronic alcoholism, and 1 of absinthism. Besides these, if we take account of the cases in which excesses in drink caused the entry into the asylum of patients who without this cause would have been able to get on outside, we find further 166 males and 63 females. The two groups, simple alcoholic cases and the insane with alcoholic causation—a total of 1,004 patients—give a percentage of 38·42 of the male and 12·82 of the female admissions. Thus, on the average, one-third of the insanity of the Department of the Seine is due to alcohol.

In 1887 the proportion was smaller—24·84 for the males, and 3·92 for the females; the increase has been progressive year by year, and Dr. Magnan adds—“As a result we see the increase of general paralysis, and what is still more serious, the multiplication of young idiots and epileptics whose antecedents now-a-days almost constantly reveal alcoholism of the father, and sometimes of the mother, or even both parents together. It is, therefore, a social duty, a work of public safety, to endeavour by all means to check this scourge, which is worse than the most murderous epidemics.”

The Influence of Fever on the Mental State of the Insane.—In a paper published in the *Journal of Mental Science* for April, 1896, Dr. J. Keay, of the District Asylum, Inverness, gives an analysis of forty-four cases of illness from scarlet and typhoid fever, occurring at the District Asylum since it was opened thirty years ago, and considers the cases with special reference to the effect of the fever on the course of the mental disease. Six of the cases were

scarlet fever, of which three recovered. Two were cases of chronic mania and melancholia of seven and five years' duration respectively. Of the thirty-eight cases of typhoid fever, there were twenty-three in which recovery from the fever took place, and of these six are reported as having mentally recovered very soon after the recovery from typhoid.

As might be expected, various theories are advanced by different authors to account for cases such as these. Thus Bucknill and Tuke suggest that it is due to the "feverish excitement" of the brain induced by the disease. Dr. C. M. Campbell, in Tuke's "Dictionary of Psychological Medicine," ascribes the favourable influence of fever to the improved circumstances and surroundings and extra attention given the patient, while M'Intosh thinks it is a mere coincidence. Dr. Clouston comes, we believe, nearer to modern thought on the subject, when he ascribes the good derived from the fever to its so-called alterative effect on the system in general, and thus stimulating nutrition. Dr. Keay, judging from his remarks on the results of thyroid therapy, is inclined to attribute the good effect of typhoid fever entirely to the increase in temperature. Although it was at first suggested that the beneficial effects of thyroid feeding in insanity was due to the febrile disturbance which it caused, the most recent views discredit this idea, but nevertheless the fact remains that apparently chronic cases of insanity do quickly recover after an attack of typhoid or scarlet fever. Now it would seem far more plausible to suppose that the good effect of the fever on the course of the mental disease was due to the stimulation of the nutritive processes that occur at the end of the fever than to ascribe any portion of it to the fever itself. Moreover, improvement occurs generally after the fever and not during it, showing quite conclusively that the fever is not an essential factor in its production. Furthermore, improvement following pneumonia and some other diseased states accompanied by high temperature has but rarely, if at all, been observed. We are, therefore, forced to the conclusion that the simple rise of temperature will not account for the improvement in the mental state of the insane observed to follow typhoid and scarlet fevers and the systematic administration of large quantities of thyroid extract.—(*Am. Med. and Surg. Bulletin.*)

Insanity and Old Age.—Dr. Anton Ritti introduced a discussion on mental derangements in old people at the Congress of Alienists and Neurologists, held at Bordeaux. Limiting the subject to psychoses occurring in old people of previous good mental health, and, therefore, excluding senile dementia and mental troubles consecutive to brain lesions, the following general conclusions are arrived at by the authors:—

1. By psychoses of old age are meant the mental affections which supervene late in life in individuals who have not hitherto shown signs of any psychical trouble.

2. The most frequently observed psychoses in old age are in order of frequency—melancholia in different forms, especially simple melancholia and anxious melancholia (excited); mental confusion, mania, moral insanity, systematised delusional insanity.

3. The excited melancholia of old age is one of the most clearly defined, by the constant agitation, anguish, violent impulsiveness, refusal of food, under the delusion that human flesh and other food is administered; by the tendency to obscenity, insomnia, &c.

This form is very curable.

4. The insanity of persecution, which begins in old age, also presents special characteristics. It follows the same course as in young persons, but is more rapid; it presents hallucinations of vision, which are not accidental but are a part of the disease, and enter to some extent into the constitution of the delusions.

5. Systematised delusional insanity, whether it be insanity of persecution or megalomania, may manifest itself in old age with the same coherence, the same activity, the same bearing as in subjects less advanced in life. Hence, one may conclude that the psychoses appearing in the last phases of life are not necessarily tinged with that intellectual falling off which is described under the name of senile dementia.

6. One of the insane manifestations which is present in nearly all psychoses of old age is eroticism. Whether we deal with mania, or melancholia, or delusional insanity, one finds in all the patients some over-activity in the domain of the genital sense, as evidenced by words, gestures, and acts often the most obscene.

7. The study of somatic or bodily symptoms is of the greatest importance in the psychoses of old age. Troubles of circulation, cardiac and renal lesions are very frequent. It is probable that the frequency in old people of mental confusion (stupor) is due to some auto-intoxication (uræmia?).

8. The causes of these psychoses must be searched for in heredity, in the organic modifications which accompany old age, in the diminished resistance which the senile brain opposes to moral and other shocks.

9. The prognosis of these affections is not absolutely unfavourable. The cure of certain psychoses in old age is almost as frequent as that of the insanities of middle age.

10. The study of psychoses in old age is in a measure the complement of that of the psychoses of old age. The insane, and especially cases of circular insanity and insanity of persecution, reach the extreme limits of old age without falling into dementia. As a rule, it is only as the result of some cerebral stroke that the first symptoms of loss of the intellectual faculties appear; but we are then in the presence of organic dementers, not of "insane" dementers (i.e., secondary dementia).

11. As regards the legal relations of the psychoses of old age, they come under the same rules which govern the law of the insane. Cases relating to the question of testamentary capacity probably arise more frequently than those concerning legal responsibility (crime, &c.).—(*Journ. of Ment. Sci.*)

II. NEURO-ANATOMY AND PHYSIOLOGY.

The Connections of the Cerebellum and the Cerebrum.—Mirto (*Revista di Patologia Nervosa e Mentale*, Feb., 1896), in an article discussing the finer anatomy of the peduncular and subthalamie regions in man, deduces the following as to the cerebello-cerebral tracts:—

Between the cerebrum (cortex and sub-cortical nuclei) and the cerebellum there are both crossed and direct connections. The former are as follows:—

1. Fibres of the superior cerebellar peduncle that cross the red nucleus sending out collaterals, to the field of Forel, and pass into the lenticular nucleus and thalamus of the opposite side.

2. Fibres of the superior cerebellar peduncle that termi-

nate in the red nucleus of the opposite side connecting with the cells of this nucleus.

3. Fibres of the superior cerebellar peduncle that originate in the red nucleus of the opposite side.

4. Collaterals of the pyramidal fibres that connect with the cells of the red nucleus, that give origin to the fibres of the contra-lateral superior cerebellar peduncle.

The direct connections are represented by the following tracts:—

1. Fibres of the superior cerebellar peduncle that traverse the red nucleus to the optic thalamus without decussation.

2. Fibres of the superior cerebellar peduncle that terminate in the red nucleus of the same side.

3. Fibres of the superior cerebellar peduncle that originate in the red nucleus of the same side.

4. Collaterals of the pyramidal fibres that connect with those cells of the red nucleus that give origin to the fibres of the homo-lateral superior cerebellar peduncle.—(*Am. Journ. of Insanity.*)

Observations of Direct Connections between Cortical Nerve Cells.—Vassale and Donaggio (*Rivista Sperimentale di Freniatria*, 1895), in a preliminary note upon certain results obtained with a new modification of Golgi's silver method, record some observations which, if their accuracy should be fully confirmed, must have great importance in relation to cerebral physiology. The modification consists merely in the addition to the bichromate solution of 5 per cent. of acetic aldehyde. In this mixture thin pieces of brain are hardened for from 15 to 20 days, and then further treated as in the ordinary silver method. The authors state that this mode of procedure brings out certain details of structure not otherwise revealed. The spines of the protoplasmic processes of the nerve cells are longer and more delicate than they commonly appear, and here and there they assume the aspect of true fibrils. In the brain of the fowl, which they have found to give the best results with the new method, the axis cylinders can be followed for a long distance. They repeatedly ramify, and some of the finest branches can be traced into the spines of the protoplasmic prolongations of nerve cells more or less distant. Regarding this observation the authors say— "This fact, which, if it should

be confirmed, would naturally have the greatest importance for the theory of the continuity as opposed to the modern doctrine of the contiguity of the nervous elements, we for the present limit ourselves to merely stating with due reserve, intending to continue the line of research."—(*Journ. Ment. Sci.*)

The Descending Endo-hemispheric Degenerations following Extirpation of the Frontal Lobes.—Prof. Bianchi, of Naples, has followed up his important experimental researches upon the functions of the frontal lobes with a study of the paths taken by the descending degeneration that occurs after the removal of this portion of the brain. He gives an account (*Annali di Neurologia*) of his observations upon the brain of a monkey eleven months after extirpation of both frontal lobes. He found degeneration of the cingulum and of the other longitudinal fibres of the limbic convolution of the superior longitudinal fasciculus, the occipito-frontal fasciculus, and the whole of the external capsule. He distinguishes between a superior longitudinal and an occipito-frontal fasciculus. The former goes to the external capsule, the latter follows the curve of the caudate nucleus, turns downwards at the level of the optic thalamus, and then spreads itself out in the angular gyrus, the occipito-temporal lobe, and the tapetum. He opposes the theory of Sachs that an occipito-frontal fasciculus only exists when the corpus callosum is wanting; and he also disagrees with the opinion of Wernicke that its fibres join the internal capsule. He maintains that there is no basis for Schnopfhagen's statement that the external capsule consists of fibres of the corpus callosum derived from the frontal lobe of the opposite side. He concludes that the frontal lobes contain a vast corona radiata of association fibres, but only a very small number of projection fibres; and regards their functions as consisting specially in that physiological fusion and synthesis of all the sensory and motor products by which is constituted a psychic personality, and in the exercise of a control over all the other centres.—(*Journ. Ment. Sci.*)

Experimental Researches upon the Cerebral Localisation of the Tactile Olfactory and Gustatory Senses.—Dr. G. Andriani, in a communication made to the Italian Congress of Psychiatry, October, 1896, arrived at the following con-

clusions on this subject as the result of his experiments upon dogs:—

1. In the posterior cortical zone of the fissure of Sylvius, and in the subjacent white matter, as also in the grey and white matter of the hippocampal gyrus, there are without doubt centres and paths connected with the tactile sense met with, especially as one passes from superior to inferior planes.

2. The disturbances in this sense which are observed in ablation, more or less extensive and profound, of these regions are noticeable principally on the side opposite the lesion, and consist in a retardation—in marked cases an abolition—of tactile perception, with errors of localisation. These disorders diminish gradually, and disappear after forty or fifty days.

3. The tactile disorders appear proportionate—especially in respect of duration—to the extent of the ablation practised on the posterior Sylvian and hippocampal regions.

4. In excisions, mono- or bilateral, of the posterior Sylvian zone, and of a portion of the hippocampal gyrus, if the anterior one-fourth or one-third of this gyrus be spared, there are observable, besides the tactile disorders described, slight transient disorders of smell, but no disorder of taste. If, on the contrary, the excision approaches or touches the anterior portion of the hippocampal gyrus, disturbances of smell become manifest, preponderating on the same side, but not of long duration.

5. If the anterior portion of the hippocampal gyrus of one side is destroyed to the extent of an olive stone, there results, in addition to other phenomena, great obtuseness, with perversion of taste and obtuseness of smell.

6. After unilateral excision of the limbic gyrus, and of the marginal gyrus, immediately behind the sigmoid gyrus as far as the splenium of the corpus callosum, there is bilateral abolition of taste, with tendency to slow improvement until the fortieth day, and light transitory disorders of smell and vision.

From experiments on apes the author concludes:—

7. That removal of the cortex of the inferior half of the second temporal gyrus, and of the anterior half of the hippocampal gyrus on one side, produces notable hypo-æsthesia in

the other side, and diminution of tactile sensibility on the same side as the lesion; further bilateral diminution of olfactory sensitiveness most marked on the same side, and also slight amblyopia of the external segment of the retina on the side of the lesion. Hearing, taste and the sense of pain remain intact. If the same portions of the second temporal and the hippocampal gyrus are excised on the other side, there result conspicuous tactile anæsthesia on the side opposite to the (second) lesion, marked amblyopia of the internal segment of the opposite retina, blunting of the auditory sense on the opposite side. Taste and sense of pain remain intact.

In every case the tactile disturbances diminish progressively during the second and third weeks.—(*Journ. Ment. Sci.*)

The Effects of Electrical Excitation on the Cerebral Circulation in Man.—Capriati has published in the *Annali di Neurologia* the results of an experimental study of the effects of electricity on the circulation of the human brain. Two patients who had undergone trephining were made the subject of study, the modifications of the cerebral pulse under the action of the galvanic and Faradaic currents, as applied to the head, being observed; also as applied to the cervical sympathetic; and the same under general Faradisation. From these observations it appears:—1. That in applications of the galvanic current, whether directly to the head or indirectly, the resulting modifications concern especially the state of the vascular walls. 2. Under the Faradaic current, on the contrary, it is the amplitude of the pulse which is particularly affected. 3. With the galvanic current there is vaso-dilatation when the application is made to the head transversely; vaso-constriction when longitudinally, or when the sympathetic is stimulated, provided that one pole—whichever it may be—is placed on the nape of the neck. The result is then probably due to a direct action of the galvanic current on the vaso-motor centres of the bulb. 4. In galvanisation of the sympathetic, in addition to vaso-constriction there are also profound modifications in the volume of the brain. Since such modifications do not occur in any other form of the other modes of application, and are constant in excitation of the sympathetic region,

they must be referred to a special action of electricity on this region. 5. In all applications of the Faradaic current the ultimate result is always augmentation of the blood flow to the brain (hyperæmia).—(*Jour. Ment. Sci.*)

Function of the Pituitary Body.—Vassale and Sacchi (*Rivista Sperimentale di Freniatria*) record the results of some further experiments they have made in the course of their investigations into the functions of the pituitary body. In their previous communication on the subject, published in 1892, they stated that they found that complete destruction of this organ in dogs and cats had fatal consequences within fourteen days. The symptoms produced included anorexia, depression, rigid gait, fibrillar contractions, muscular spasms, and lowering of temperature. They also found that partial destruction produced a series of similar symptoms, and they concluded that these were consequent upon a true functional insufficiency of the gland. As the result of their second series of experiments they have now supplemented these observations in certain important particulars. They have ascertained that the symptoms produced by destruction of the pituitary, including the depression of temperature, can be temporarily relieved by an injection of an extract of the organ from the ox. In a case in which the pituitary was only partially destroyed, the characteristic phenomena were observed for about three weeks, after which the animal gradually recovered and remained healthy for eleven months. It was then killed, and the fact of the incomplete destruction of the gland was confirmed. The authors maintain that the results of their experiments show that the pituitary body has certain close functional analogies to the thyroid gland. Thus its partial destruction may be tolerated, and the lowered temperature which follows its complete destruction is restored to normal by injection of an extract of the organ. They are of opinion that the pituitary body, like the thyroid, elaborates a special product of internal secretion which is indispensable to the organism.

Weigert's New Neuroglia Stain.—For the past seven years Prof. Weigert has been endeavouring to bring to perfection a reliable staining method which will reveal the various elements of the neuroglia. He has now succeeded in so doing, though he admits that the method may, and doubtless

will, be somewhat improved. On the 3rd November last the details of his method were given to the scientific world by the author for the first time in an address delivered at a banquet given on the occasion of the fiftieth anniversary of the Medical Society of Frankfort-on-the-Maine. The following are the different steps as laid down by the author:—

The method is only applicable to human nervous tissues. All experiments upon the tissues of lower animals have been a failure. The tissues must be absolutely fresh—that is to say, the subject from which they are taken must not have been dead more than twenty-four hours; the fresher the tissues the better are the results likely to be. The pieces to be used must not be more than one-quarter of an inch thick, and great care must be used in order to prevent mutilation of the tissues during their removal. Pieces thus removed are immediately placed in a 10 per cent. watery solution of formol; after twenty-four hours the solution is renewed. In from five to eight days the pieces will be found sufficiently hardened, and ready for the next step, but they may remain in this solution for an indefinite period without injury. During the first few days of hardening a glass-covered vessel should be employed, the bottom of which is covered with filter paper; too great care cannot be used in handling the pieces at this time, as they are very soft and easily mutilated. This is the so-called “fixing” or “hardening stage.” The hardened pieces are now placed in the following solution:—

5 per cent. of acetate of copper.

5 per cent. of acetic acid, and

2½ per cent of chrome alum in water.

In preparing this solution the chrome alum should be boiled in the required amount of water, and while the water is still boiling, add first the required amount of acetic acid and then the acetate of copper. Stir thoroughly with a glass rod until all the sediment has been removed. In this solution the tissue should remain for a period of from four to five days if the incubator is used, and for a period of at least eight days in the ordinary temperature of a living room. Even better results may be obtained if to this solution 10 per cent. of the formol solution is added, and in that case after twenty-four hours the tissue should be placed in the

ordinary copper solution, where it remains for the rest of the time. This is the so-called "mordication process." The process of fixing and mordication may be combined if the tissue is only intended for the neuroglia stain. The pieces are now removed from the copper solution, thoroughly washed in water, then dehydrated with alcohol, and next thoroughly infiltrated with celloidin, which is done in the usual way. The pieces are now mounted on cork, and are ready for the microtome. The section-cutting is done in the usual way, and if the best results are to be obtained the sections must be exceedingly thin. The cut sections are stained with the following solutions and in the following manner:—Make a hot saturated solution of methyl violet in 80 per cent. alcohol. To 100 c.c. of this solution add 5 c.c. of a 5 per cent. watery solution of oxalic acid. The section is now carefully transferred to the slide; a drop or two of the staining solution is placed on the section. The superfluous fluid is removed by gently placing several thicknesses of filter paper directly over the section, and lightly moving the finger tips back and forward over the filter paper until the section is dry. The next stain is the so-called "iodine stain;" this is a saturated solution of iodine in a 5 per cent. solution of iodide of potassium; of this solution several drops are placed on the section, and the superfluous fluid removed as before. The section is cleared by employing a solution of aniline oil and xylol in equal parts; after this is done the oil remaining in the section is removed, and further cleared in pure xylol. The section is now ready for the balsam and cover glass. The tissue has a strong affinity for the staining agents, and the various steps should be done rapidly, care being taken not to leave the section dry for any length of time. All of the staining should be done on the slide, in order to prevent unnecessary mutilation of tissue. After the sections are mounted they should be exposed to good sunlight for a week. This constitutes the simple neuroglia stain, where nothing but neuroglia is stained, all other tissues remaining unstained. If it is desired to stain the nervous tissue also the following addition is made:—The sections taken from the microtome are placed for about ten minutes in a one-third per cent. solution of permanganate of potassium, then thoroughly washed in water; after this the

sections are placed in a solution of chromogen, which is made as follows: dissolve 5 per cent. of formic acid in water; filter carefully; before using add to 90 c.c. of this solution 10 c.c. of a 10 per cent. solution of sodium sulphite (such as is used in ordinary photographic work).

In this solution the sections remain for a period of from two to four hours, when they are thoroughly washed in water; the sections are now stained according to the method already indicated. This step is known as "reduction."

In the single neuroglia stain the neuroglia fibres and cells are stained blue; if the reduction stain is employed, all neuroglia tissue remains blue, while the ganglia cells with their axis cylinder processes are stained yellow. The reduction process may be improved by placing the sections which have been removed from the reduction fluid into a simple saturated watery solution of chromogen, where they remain for twenty-four hours. At the end of this time the sections are again washed in water, and then stained by the method described above.

By the discovery of this stain Weigert has demonstrated that there is no such a cell as the Deiter cell, and that what has heretofore been regarded as Deiter cell processes are not processes at all, but are rather neuroglia fibres lying round about a neuroglia cell, and have no direct connection with the cell itself. It is thus seen that this new method is destined to become a great aid in studying the histology of the nervous system. What benefit it will be to morbid anatomy remains to be seen.

It is to be noted that the rapid hardening of the tissues by this method does not render them brittle, and further, that after the tissues have been subjected to the "fixing" process they are also well adapted for other staining methods, such as those of Marchi, Golgi, Van Gieson, and Nissl, and by simple hæmatoxylin and carmine. This is of great advantage, inasmuch as it is always desirable to employ a number of different stains for the same tissue.—(*Am. Journ. of Insanity.*)

The Preservation of Serial Sections.—Dr. Worcester, of the Danvers Lunatic Hospital describes a method he has adopted for the preservation of a continuous series of sections, which are of much importance in the study of the normal or

morbid histology of the medulla oblongata, pons, and basal ganglia. As it is unnecessary to prepare and mount every consecutive section those not mounted can be kept for examination at any future time in the following manner:—Pieces of tissue paper a little larger than the sections to be preserved are numbered with lead pencil consecutively. The sections when cut are taken from the knife on the papers and laid one above another in alcohol. When the requisite number have been thus laid aside the papers are rolled together, furnished with a paper label, tied up and kept in alcohol. When any are wanted for examination the bundle can be unrolled, and the specimen desired taken from it. If the papers are separated under alcohol there is little danger of tearing the sections. The sections to be mounted can be carried through the staining and cleansing fluids on the numbered papers, and their position in the series thus determined at any stage.—*Am. Journ. of Insanity.*

III. NEURO-PATHOLOGY AND PATHOLOGICAL ANATOMY.

The Pathology of Syringomyelia.—Dr. Allen Starr, in a review of the pathology of the malady, published in the *Journal of Nervous and Mental Disease*, records as follows the varying opinions of observers in their chronological order:—

1. The view of Virchow, who ascribed the cavities, invariably found in the spinal cord in the terminal stages of the disease, to a distension of the central canal. This view was modified by Leyden, who considered the condition a congenital hydromyelus. These views are now modified by their authors.

2. Simon first distinguished sharply between hydromyelus and syringomyelia, and pointed out the existence in the latter of gliomatous tissue and destruction.

3. Schultze then urged the view that prior to the formation of any cavity there was always a central gliomatosis, a proliferation of glia cells, which, though usually beginning near the central canal, may begin anywhere in the cord.

4. Hallepeau later proposed the theory that the condition was really a chronic inflammation beginning in the epithelium of the central canal, or in the periependymal cells, and considered the process to be of the nature of sclerosis.

5. Joffroy, like Schultze, denied any necessary relation between the pathological process and the epithelium of the central canal, but considered that an inflammatory change might begin in any part, leading finally to disintegration—a true “myelite cavitaire.”

6. Langhaus then brought forward an hypothesis, which Kronthal subsequently supported, and which Müller and Medin have recently urged, that an obstruction to the venous or lymphatic return flow from the cord may lead to accumulation of fluid in the central canal, distension of the cavity of the canal, pressure on, and thus disintegration of, adjacent grey matter, with glia formation.

7. Lastly, Van Gieson, from a study of a number of cases, has shown that a long cavity may be left after the absorption of the clot formed by a perforating hæmorrhage in the cord; that such a cavity is surrounded by a zone of neuroglia, thus simulating true syringomyelia. Dana, while admitting the possibility of perforating hæmorrhage confined to the grey matter of the cord, considers that a true necrotic process is in some cases the primary cause of such cavities as Van Gieson describes.

The conclusion to be drawn from this review of various theories is that cavities develop in the spinal cord from many causes, and that the lesion of syringomyelia is not of uniform causation.

The Pathology of Friedreich's Ataxia.—Dr. Dana, in the issue of the *Post Graduate* for July, 1896, records a case of this disease in the person of a young man who died at nineteen years of age, having been affected with the malady since his eleventh year; he was one of eight children, of whom four developed Friedreich's ataxia. Sections of the spinal cord were stained with carminate of soda, Weigert's hæmatoxylin, methylene, and ordinary logwood. The sections show that the spinal cord is much reduced in size, and flattened antero-posteriorly. The pia mater is much thickened. A sclerosis of the posterior and lateral columns is seen extending through the whole length of the cord, but more marked in the lower portions. This sclerosis involves nearly the whole of the posterior columns. In the lateral columns the parts affected include the region of the crossed pyramidal tracts, the direct cerebellar tracts, and, to a more or less

extent, the area occupied by the ascending lateral column. There is, aside from this systematic degeneration, a margin of sclerosis enveloping nearly the whole circumference of the cord. In addition to this combined sclerosis, there is throughout the whole length of the cord a most peculiar change, which consists in the presence of holes, varying in size from half a millimetre to two millimetres in diameter, and which are apparently dilated perivascular spaces. They are found in both the grey and white matter of the cord, but more extensively in the white matter. They are not artificial, for under high powers it can be seen that each opening is surrounded by a layer of connective tissue. Although they appear to be spaces from which blood vessels have dropped out, yet in no instance can the remains of such blood vessels be detected, and therefore their perivascular nature is not proven. In three other cases of Friedreich's disease examined by Dr. Dana no such vacuolisation was observed. The grey matter shows a moderate degree of degeneration of the nerve cells, but no special disturbance. The degenerative changes in the blood vessels were not very greatly marked. The question as to whether the sclerosis in Friedreich's ataxia is really a gliosis could not be answered by any tests to which these sections were submitted. There is probably a large amount of both neuroglia and connective tissue proliferation in the diseased areas. The brain and nerves in this case were not available for examination. The presence of complicating lesions in Friedreich's ataxia is not exceptional, Dr. Dana considers. Dr. Griffith, of Philadelphia, for instance, showed him sections in which there was an old polio-myelitis as well as the combined sclerosis. A study of these accidental lesions may prove of value in elucidating the pathology of this disease. So far as now known, it is to be looked upon as a teratological condition, a defect in development. Why this occurs in certain families, however, we do not know. It is far from being always hereditary.

Degenerative Changes in the Brains of the Non-Insane.—Dr. Robert Hutchison ("Edinburgh Hospital Reports," IV., 1896) discusses the question as to what are the normal findings in the cortical cells of the human brain. By "normal" he means the average, not the ideal, conditions. In order to get an idea of the appearances of the average

cortical cell in the sane, he examined fifty cases, using Bevan-Lewis' fresh method, taking in each case a part of the convolutions of the left motor area, usually the ascending frontal. The cases were taken as they came without any special reference, except as to the latest illness, its general character and symptoms. The most striking fact derived from the examination was the frequency of abnormal conditions; their absence was the exception. The most frequent of the morbid conditions found was pigmentary degeneration, which was clearly excessive in nearly one-half of the cases examined, allowing fully for the normal increase with age. Every degree of this condition was met with from merely a slight increase to complete destruction and replacement of the cell by pigment granules. It is difficult, he says, when discussing these appearances to accept the statement that they are "invariably a witness to bygone functional hyperæmia." If it is difficult to define exactly excess of pigment, it is still more difficult, according to Dr. Hutchison, to mark the limits of normal and abnormal granularity of the cell. Vacuolation of the brain cells, he thinks, is sometimes confounded with the faint staining of the nucleoli by the Bevan-Lewis method, the appearances being almost quite similar, the faintly stained nucleoli closely resembling vacuoles in the cells. He has, however, not infrequently seen true vacuolation, but is unable to associate it with any definite disease.

Changes in the neuroglia seem less frequent in the sane than in the insane, and in no case did he find anything similar to the condition observed in paresis.

In order to control these investigations Dr. Hutchison made similar examinations of the brains of fifty insane persons, prepared in the same way, and taken in sequence as they died without selection. He is bound to say, he states, that in these he could find no greater intensity or frequency of pathological changes than in the other series, always excepting the cases of paresis. It would be of interest to know the proportion—if there were any such—of old demented cases, and organic dementia, but this is not stated.

In discussing these results Dr. Hutchison takes up the possible causes of the changes observed. The method of examination may be somewhat in fault, but this would be

inadequate to explain all the facts, especially the pigmentation he claims. That they are all *post mortem* is also improbable, and he has found no difference between sections taken early or late (three or four days) when the brain was properly cared for and preserved. There is, of course, a possibility that the *post mortem* changes occur at once after death and then cease, but this could not be very well tested in man. The possibility also of their being due to the fatal illness is to be remembered, but is also undemonstrable. The most natural explanation, according to the author, is to regard the cell changes as secondary to disease elsewhere, and this he holds is quite in accordance with the teachings of general pathology. If indeed there is any organ in which such secondary changes should be looked for from systemic circulatory disturbances, &c., it is the brain with its richness of blood supply. The only disorder, however, with which he is able to especially correlate such changes in the brain cells is chronic renal disease, and he calls attention to the fact that Bristowe has pointed out the analogy of the changes in the cerebral vessels in chronic Bright's disease with those that occur in paresis. It is also worthy of note in this connection, he says, that chronic nephritis is unusually common amongst the insane. It is easy to conceive that even a slight cedema of the brain might so affect the nutrition of the organ as to bring on a cell degeneration.

Dr. Hutchison admits that his criticisms apply to only one method, and that possibly not the best. It is, therefore, only suggestive of greater carefulness in estimating the value of microscopic findings, and greater attention to the comparison of the changes found in the insane with those found in the non-insane. It is not of course in any way conclusive against the later and more accurate methods of study of the pathological histology of the cerebral cortex.

The Bacteriology of General Paresis.—What appears to be an important research is reported on by Dr. Piccinino in the *Annali di Neurologia* (XIV., Fasc., I., II). When, in 1892, Prof. Bianchi undertook a series of bacteriological investigations on the febrile psychoses, the blood in various stages of paresis was tested by culture and inoculation experiments, without discovery of more than the ordinary bacteria of inflammation. These negative results led Bianchi to under-

take a series of examinations of the cortex in five paretics—three men and two women—some of them with certain or suspected syphilitic antecedents, and one or two in which these seemed to be excluded. The patients were all clinically observed during life, and the diagnosis was clear.

The portions of the cortex examined were taken, with antiseptic precautions, through openings made with a trephine before the general autopsy or the removal of the calvarium, thus insuring as far as possible against foreign contamination. Some of the pieces removed were used for culture experiments, but the results were the same as in the cultures with blood aspirated antiseptically from living patients in the former investigation.

Other specimens were hardened in absolute alcohol and then embedded in paraffin, and sections prepared according to various staining methods usually employed (aniline, gentian violet, Loeffler's methylene blue, fuschin in aqueous solution, Gabbett's freezing method, those in Ehrlich and Koch-Ehrlich), but without result. Only the Gram and Weigert methods showed some sparse cocci, isolated or in pairs or groups, which were probably the same as those met with in the culture experiments.

Piccinino next tried with an extensive series of sections a modification of Lustgarten's stain for his supposed syphilis bacillus, which on account of the importance of the findings is here re-stated in detail.

The very thin sections were floated in distilled water on to cover glasses, dried with bibulous paper, cleared of paraffin with xylol, and then immersed in a rather concentrated solution of gentian violet in aniline water, where they remained for twenty-four hours in a temperature of 37° C., and then for two hours in one of 40° C. Next the glasses were subjected to a prolonged washing in absolute alcohol, and passed for half a minute into a solution of permanganate of potassium, 1½ per cent., and afterwards plunged, into a saturated aqueous solution of sulphurous acid. Remaining in this a few seconds so as not to entirely lose their coloration, and after a prolonged bath in distilled water, they are returned for a few seconds to the permanganate solution. Next the glasses are repeatedly plunged into absolute alcohol dried by a lamp, and the preparation is finished by mounting with neutral balsam and xylol.

When by this method the colorisation could be arrested at the point of leaving a slightly violaceous tint, Piccinino was able to see clearly, and in large numbers, a rather large bacillus twice as long as broad, sometimes isolated, sometimes in twos or threes, often slightly or strongly curved. They appeared in all the tissues, but more especially in the pericellular spaces; their coloration was generally violaceous, never an intense violet, but sufficiently marked in the denser parts. In some visual fields these organisms resembled grouped granules, in others, where more decolourised, they seemed like shining points, or a very refrangent bacillus. Control experiments were made with this method on the cortex of patients dying of other affections, always with a negative result, and no other method revealed the same organisms in the paretics.

These results, if confirmed by other observers, have an important bearing on the syphilitic theory of paresis, and also are suggestive as to the significance of Lustgarten's bacillus, the connection of which with specific disease has not heretofore been considered as fully proven.—(*Am. Journ. of Insanity.*)

Aphasia.—M. Miraille, of Paris, has recently published a memoir on sensory as compared with other forms of aphasia. Sixty-two cases, many of them heretofore unpublished, form its text. The principal aim of the author is to prove, as previously in publications made in collaboration with M. Déjerine, that agraphia, which often complicates aphasia, is not localised in a special centre as others claim, and that neither clinical observation nor pathological anatomy demonstrates a centre for graphic images.

The paper gives the main points in regard to aphasia, and the distinction of its various forms. Together with Broca's aphasia there exists a sensory form—the sensorial aphasia of Wernicke, of which the verbal blindness and deafness of RUSMAUL are only varieties. The centres of language images (visual, auditory and motor) are grouped in the convolutions enclosed by the fissure of Sylvius forming the language zone. Every lesion of this region affects internal speech (Déjerine), and in consequence, manifest or latent lesions of all the forms of language (speech, hearing, reading, writing) with troubles predominating in the functions of

images directly destroyed. Agraphia is always present. These are the true aphasias. The pure aphasias (sub-cortical motor aphasia, pure verbal blindness and deafness of Déjerine) are located outside of the language zone, and leave the internal language intact. They never cause agraphia, and affect only one phase of speech constituting a group apart from the true aphasia. Nothing authorises the admission of a motor centre for graphic images, and a pure agraphia remains yet to be demonstrated.—(*Am. Jour. of Insanity.*)

IV. NEURO-THERAPEUTICS.

Lumbar Puncture.—Trephining for the relief of brain pressure in general paralysis was first suggested by Dr. T. Claye Shaw, in 1889, and the first operation was performed in July of that year by Mr. Harrison Cripps. The procedure found an earnest advocate in Dr. J. Batty Tuke, who latterly suggested laminectomy with permanent drainage in its stead. As a substitute for these serious operations, both in general paralysis and in other forms of brain and cord disease when intracranial pressure is believed to exist, paracentesis of the spinal dura mater, or lumbar puncture as it is called, has been suggested by Quincke and von Ziemssen. Lichtheim has since called attention to the diagnostic importance of the operation, and demonstrated the presence of bacilli in the fluid in cases of tubercular and purulent inflammatory conditions of the meninges. Fürbinger reports results in over a hundred experimental punctures, in eighty-six patients who were suffering from a variety of brain disorders, and brought the therapeutic and diagnostic bearings of the subject prominently before the profession. In England, Morton and Paget have made an exhaustive report on the subject. In America, Jacoby was the first who practised the method, his recent report covering thirty-five cases, of which seventeen were of tubercular meningitis. He also reported two cases of subdural spinal hæmorrhage, punctured with marked improvement. Dr. J. Turner first performed the operation in general paralysis, and claims that it fulfils at least temporarily all the conditions that result from trephining or laminectomy. Dr. W. L. Babcock, of the St. Lawrence State Hospital for the Insane, has, in May,

1896, performed the operation in America in cases of paresis; the puncture was made on twenty-two occasions on paretics in all stages, and in other cases of brain or spinal trouble, without the production of unfavourable conditions, and with the temporary amelioration of many prominent mental and motor symptoms. The operation itself is **not** difficult, and with antiseptic precautions is **unattended** with danger in uncomplicated cases. **No fatal results** following puncture of the subdural sac have been reported, except in cases of cerebellar tumour. Furbinger had four deaths out of eighty-two cases, and a *post mortem* demonstrated that each of the four was suffering from some variety of cerebellar neoplasm. Dr. Babcock reports on nineteen cases in which puncture was done. Twelve were general paralytics, two simple melancholiacs with pressure symptoms (intense headache, stupor, photophobia), and the remaining five included one case of each of the following maladies—locomotor ataxia, stuporous melancholia, organic dementia, status epilepticus, and acute delirium. A careful study of the results obtained brings out the following conclusions:—

1. Lumbar puncture affords temporary relief from pressure symptoms in over fifty per cent. of cases of paresis submitted to the operation.

2. The most beneficial effects are manifest over motor inco-ordination—i.e., ataxia, tremors, &c.

3. Analysis of the fluid obtained in paresis shows that it contains an inflammatory product (albumen) throughout all stages.

4. It may be of benefit in locomotor ataxia, status epilepticus, or organic cerebral disease, and deserves further trial in these cases.

5. It presents excellent diagnostic possibilities, particularly in meningeal inflammations.

6. It does not sufficiently benefit melancholia with pressure symptoms to warrant its use in this disease.

7. Re-accumulation usually occurs within from three to ten weeks when a second or even a third puncture is indicated if patient's condition admits (*State Hospital Bulletin*, July, 1896).

Fleischig's Bromo-Opiate Treatment of Epilepsy.—Though the results of this method of treatment, which have been

recorded, are still few in number, yet its adoption in severe or obstinate cases of epilepsy, especially when associated with profound mental disturbance, appears worthy of consideration.

In the *Zeitschrift f. Psychatrie*, Bd. LII., two communications have appeared, each of which gives most favourable results. Linke has administered opium and bromides in succession to seven epileptics—six males and one female—in all of whom marked psychical aberration existed. In rapidly increasing doses he exhibited opium first for six weeks, suddenly changing the medicament to large doses (75 grammes) of bromide, which being continued for another period of six weeks, was then reduced to a daily dose of 5 grammes. This is the method advocated by Flechsig, though other therapeutists have lengthened the periods of administration of each drug. Linke found that during the opium course the epileptic seizures increased greatly in number, and that the body weight in some cases showed a marked diminution. As soon as the bromides were substituted for the opium the fits immediately diminished in frequency, and the body weight in the affected cases increased again. The ultimate result of the treatment was that in one patient the seizures had not recurred from the commencement of the bromide course to the date of his paper; in another, one fit occurred on the third day after beginning the bromides, and then, after an interval of freedom, for nine weeks, two seizures ensued; a third patient had a fit on the first morning of the bromide treatment, after which an interval of sixty-five days without fits elapsed, when the bromide had to be discontinued owing to bromism; five days after its withdrawal the patient had another fit. With reference to the mental condition two patients showed a comparative improvement, they became more cheerful and patient of control; one of these, who had been subject to accessions of intense furor, subsequently remained quite free from them. Two of his seven patients died during treatment, one apparently by reason of the deleterious action of opium on the heart, which was diseased, the other owing to exhaustion due to the epileptic status. In nearly all the cases a moderate degree of constipation was induced when the daily doses of opium reached 60 grms., this was easily

overcome, however, by simple aperients. When the maximal dose of opium was reached serious symptoms supervened, which rendered careful observation of each case needful. As only two and a-half months had elapsed between the commencement of the bromide course and the publication of his paper, Linke discreetly draws attention only to the remarkable effects of this mode of treatment in cases hitherto wholly uninfluenced by therapeutic measures.

In the same journal Rabbas relates his experience of a similar course of treatment; adopted in eleven female and five male epileptics, and his communication has grater value as two years have elapsed since the experiments were made. Fifteen of these cases had previously been treated unsuccessfully with bromides only. Rabbas began with '3 grms. of pulv. opii per day, increasing this gradually to '9 grms., after which he suddenly changed the treatment to a bromide course of 7.5 grms. daily. During the opium treatment the number of fits increased; in one case only did the body weight remain stationary, in every other instance observed there was some diminution. In six nausea and vomiting occurred, but constipation was not a marked symptom. Some mental improvement was noted in every case. With the sudden cessation of opium severe vomiting sometimes ensued, but dangerous symptoms never actually showed themselves. As soon as the bromides were given instead of the opium the fits at once diminished in frequency; in twelve patients they disappeared, and in one case only was there a more serious renewal of the fits. In five cases the fits remained absent from six to ten months, and on recurrence were less frequent than formerly; in three there has been for two years no recurrence whatever. Two of the cases died during treatment, both (females) succumbing to the exhaustion of the epileptic status towards the end of the opium stage. The results among the males were less satisfactory than among the nine surviving females.

This treatment is one that may certainly be attempted in cases of some severity, though great care must necessarily be exercised in their supervision during the high dosage of opium and in the transition period of medication.—(*Journ. Med. Sci.*

Bromide of Strontium in Epilepsy.—Dr. Roche, (*Lancet*,

September 26th, 1896) reports the results of the administration of this drug in a number of cases, and summarises twelve of them as follows:—Of the twelve, eight were males and four females. Their ages ranged from ten to fifty years; in none was any family predisposition admitted, and none could assign any cause, nor was there any evidence of syphilis; eight had the disease from youth. In four of the cases the fits occurred at least once a week; in the other eight at intervals of one to eight weeks. Three of the patients had some warnings of the attacks, feeling depressed beforehand; the others had not observed any. All had been treated with varying results. The treatment adopted, besides meeting any general indications, obtaining the best hygienic surroundings possible, and advising a strictly vegetable diet with milk, was to give twenty grains of the bromide of strontium, with five or ten grains of the bromide of sodium or ammonium, night and morning largely diluted with water. The strontium salt was increased to one drachm twice a day rapidly when the smaller doses were found to be ineffective in controlling the attacks, and where the patient did not complain of it. The majority of the patients took the strontium without any depression, but generally with the production of the acne rash on the face. *Liquor arsenicalis* controlled the rash and increased the appetite. This course in all the cases, materially lessened the number of the attacks, and in eight of the cases there has been, so far, no return of them, that is, after an interval of 16, 12, 11, 9, 8, $8\frac{1}{2}$, $5\frac{1}{2}$ and 4 months respectively.

Trional in Epilepsy.—Early in 1894 Dr. S. Weir Mitchell began the use of trional in the treatment of epilepsy. Since this time, at his request, his colleagues, Dr. Sinkler and Dr. Lewis, have been employing it in many of the cases of epilepsy coming under their care at the clinics of the Infirmary for Nervous Diseases, Philadelphia. The results obtained from this treatment have been such that it has been thought well to report them. In most instances where trional was used the cases were in some way benefited. Either the number of attacks was diminished, their severity lessened, or the general physical condition of the patient improved. Summaries of thirteen cases are recorded; of these the first ten show a marked decrease in the number of

attacks during the time of taking the trional, and the physical symptoms during this time were singularly improved. In the first five of these cases the number of attacks was less during the time of taking the trional than during the time of taking bromides. In two cases the bromides controlled the attacks better than trional, and did not produce such annoying symptoms. In one case neither drug seemed beneficial.

Dr. Mitchell, with all the facts in mind, believes that trional may often be used as an efficient substitute for bromides. He has, so far, seen no ill results from many weeks of its continuous use. It is at times well to give bromides in the daytime and trional at night.—(*University Medical Magazine*.)

IMMUNITY FROM SNAKE-POISON.

THE *Medical Record* notices a new antidote to snake-poison discovered and prepared by one Dr. Calmette, of the Pasteur Institute. By this therapeutic serum the most venomous serpents will be rendered as harmless as doves. The method is based on the fact that venomous serpents are not susceptible to the bites of their own species, an immunity not enjoyed by non-venomous snakes. Rabbits and guinea-pigs, duly chloroformed, are bitten by cobra or viper, or inoculated with its venom. Their blood-serum is the protective material. Dr. Calmette has three strings to his bow, chloride of gold and chloride of lime—especially the latter in solution—"injected subcutaneously with a trephine [*sic*] all about the wound, and all about the wound, and also under the skin," will save the life of a bitten man.

LE NORD MEDICAL.

THIS is a fortnightly journal recently born at Lille, under the care of Drs. Doumer, Lemoine, and Phocas. The contents of the first two numbers are of the usual character. We observe that a Bacteriological Institute was about to be established at Lille, in which anti-diphtheritic serum will be prepared. It is estimated to cost £4,000, and a subscription list has been opened. Similar institutions have, it appears, been founded in Barcelona, Madrid, and Brussels. The use of the anti-toxine in the French Army has been sanctioned.

PART IV.

MEDICAL MISCELLANY.

Reports, Transactions, and Scientific Intelligence.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

President—JAMES LITTLE, M.D., F.R.C.P.I.

General Secretary—JOHN B. STORY, M.B., F.R.C.S.I.

SECTION OF OBSTETRICS.

President—LOMBE ATTHILL, M.D.

Sectional Secretary—F. W. KIDD, M.D.

Friday, February 12, 1897.

The PRESIDENT in the Chair.

Exhibits.

DR. ALFRED SMITH showed a double pyosalpinx, where the tubes were greatly distended by pus, and which presented the unusual and unique condition of having the fimbriated extremities joined together intimately by a firm short adhesion. He removed them from a patient, aged 35, who sought relief for a constant pain "up through her." The only relief from pain was during menstruation. The periods were irregular, the intervals varied from six weeks to two months, the amount scanty. Operation very difficult from the extensive adhesions. On separation of the tubes from the pouch of Douglas their united ends formed a hoop across the fundus of the uterus, which bore a remarkable similarity to the handle of an ordinary bucket. Result, recovery.

DR. KIDD exhibited for Dr. Lane, who was unable to be present, a multilocular ovarian cyst. It had been removed from a girl, aged 18, who became a patient in the City of Dublin Hospital on the 4th inst.

When first seen a short time before operation the tumour reached as high as the ensiform cartilage, and its consistence appeared to be more like that of a fibroma, more especially over

the upper portion. No fluctuation could be felt, and there was absolute dulness not only all over the tumour but also in the flanks, no matter what position the patient was placed in.

The usual incision was made, but it was impossible to tell where the peritoneum or cyst was reached, in consequence of the structures being so intimately glued together, and also because the contents of the cyst immediately beneath the incision were blood-stained. There were adhesions over the whole of the anterior surface of the cyst, and high up and rather posterior a portion of small intestine was closely adherent to the cyst.

Fatal Urogenital Organs.

DR. P. J. BARRY exhibited specimens of "foetal urogenital organs" removed from a full-time male child, which survived its birth thirty minutes, after a normal but tedious labour. The following abnormalities were also noted:—Six fingers on each hand, thumbs being duplicate; six toes on each foot, big toes duplicate and others "webbed;" talipes equino-varus; cleft palate; tongue rudimentary and lower jaw badly developed; kidneys enlarged; ureters greatly distended, and nearly as large as small intestine; bladder distended, and greatly hypertrophied; penis small; glans penis small; no meatus; urethra impervious; the lungs, heart, stomach, large and small intestines normal and quite healthy.

Specimens are interesting as showing that in the normal condition of things urine is voided in the latter months of foetal life. Also that the quantity cannot be very great, as none could be voided in this case save by osmosis, meatus and urethra being impervious; and the quantity in the bladder and ureters does not exceed twelve ounces. Dr. Barry added that the child was dead when he saw it. The bladder was enormously distended. The quantity of liquor amnii was the ordinary amount.

DR. ERNEST TWENDY said the remarkable features of this case seemed to be that there should be no diminution of the liquor amnii, and that the child could have lived for nine months without passing urine.

DR. JELLETT showed for Dr. Purefoy the following specimens:—(1.) Ovarian cyst with fibroma of ovary incorporated in it. It had been removed from a patient aged 35, who had been sent up from the country with a diagnosis of pregnancy. When the patient was examined under anaesthetics, the uterus was found to be empty, the abdomen was occupied by a cystic tumour, and a hard mass lay in Douglas' pouch, closely resembling a foetal head.

A diagnosis was made of extra-uterine pregnancy or dermoid of ovary. On opening the abdomen the tumour was easily removed, and the patient made an uninterrupted recovery.

(2.) Hematosalpinx removed from a patient aged 25. She had not menstruated for seven weeks prior to the operation. The right tube was lying in Douglas' pouch, and was very much distended with blood—presumably a tubal mole. It ruptured during removal. The patient made an uninterrupted recovery.

(3.) Pyosalpinx removed from a patient aged 20; married a year and seven months; last pregnancy was an abortion a year previously. The right tube was greatly distended, and had become twisted three times on itself. It was removed without difficulty. The patient made an uninterrupted recovery.

(4.) Fibro-cystic tumour of uterus, 16 pounds in weight, removed by panhysterectomy. The patient who was very weak and anæmic, had noticed the tumour for three years. She was kept in bed for three weeks with a view to improving her strength, but as she became worse each day, it was decided to give her the chance of an operation. The tumour was removed without difficulty, but the patient died of collapse five minutes after she was put back to bed.

(5.) Ovarian cyst removed from a girl aged 18. Patient made an uninterrupted recovery.

(6.) Ovarian cyst with twisted pedicle removed from a patient aged 40. She had been very weak prior to the operation, but improved rapidly after it.

(7.) Ovarian cyst and tube of same side removed for inflammation. The patient made an excellent recovery as far as the abdomen was concerned; but on the fourth day after operation she developed a very severe left-sided parotitis. An abscess formed which was opened and drained, and she left the hospital quite recovered six weeks after the operation.

(8.) Dermoid tumour of both ovaries removed from a patient aged 29; one tumour burst during removal. The patient made an uninterrupted recovery.

DR. ALFRED SMITH exhibited two ovarian sarcomata, which he removed from patients aged respectively 19 and 32. The large one belonged to the younger patient, and filled the entire abdominal cavity; it touched the ribs on the left side and felt so firm as to be mistaken for a fibro-myoma.

The smaller tumour which was the size of a four-month pregnant uterus, was extremely mobile, and could touch ribs on either side without over-stretching pedicle. Two interesting points

were—1st, the small quantity of ascites; 2nd, the sarcoma was confined to one side. The other ovary was healthy. Both patients are making good recoveries.

A large multilocular ovarian cyst, which led to an error in diagnosis; it was considered to be an extra-uterine pregnancy. There was enormous distension with free fluctuation, no markings of pregnancy, breasts small. Ballotement of a solid mass, quite distinct in left side; no foetal heart. Abdominal section revealed a ruptured ovarian cyst; the solid mass that balloted was proved to be an unruptured daughter cyst. Patient developed an extensive erythema multiforme six days after operation; several large bullæ were formed, which was followed by complete desquamation. The temperature never exceeded 100° F.; pulse 86. Recovery good.

The PRESIDENT remarked that nine years ago he operated in a case in which the sarcoma was quite as large as that exhibited, and he had great difficulty in getting it out of the pelvis. A day or two after the operation he saw Dr. Knowsley Thornton, of London, who said he had never known a case of the kind except one in which the disease did not recur within twelve months. But that lady was alive still, and had been a comparatively healthy woman in the interval; and, moreover, she had got married, but had not had children.

The Anticipation of Post-partum Hæmorrhage.

DR. HORNE having taken the chair,

DR. ATTHILL read a paper on "The Anticipation of Post-partum Hæmorrhage." He advocated the exhibition of ergot in combination with from 5 to 10 drop doses of liquor strychninæ for two or three weeks prior to the date at which labour was calculated to set in, in the case of patients in whom a tendency to post-partum hæmorrhage was known to exist, and gave the details of cases in which this treatment was carefully carried out, followed by the most satisfactory results. He stated that the exhibition of ergot when hæmorrhage had set in was seldom of use, for that ergot should produce any permanent effect on the uterus it requires to be administered at least some hours previously, and the dose requires to be repeated at intervals of about two hours. The author stated that he had been carrying out the practice advocated in all suitable cases for many years, had never once seen it fail to produce good results, and it never had produced unpleasant symptoms, or injured either mother or child. He also observed that, so far from inducing labour to set in prematurely, the exhibition of ergot and strychnin tended to retard its onset. Thus, in the case of one lady

who on several occasions had nearly lost her life from post-partum hæmorrhage, not alone was hæmorrhage averted, but the term of utero-gestation was prolonged to the 293rd day, calculated from the end of the last menstrual period; while on the last three occasions labour with her had set in almost about the 270th day; and in another case, while hæmorrhage was in like manner averted, labour did not set in till the 288th day, her previous pregnancies always terminating prematurely.

Dr. Atthill also advocated the exhibition of ergot in cases of threatened abortion, as being coupled with absolute rest, the best method of preventing its occurrence.

Dr. HORNE said he could bear out a great many of the statements in the paper as to the influence of ergot before labour. They used to be taught to avoid administering it before the second stage of labour had commenced. But he had had opportunities of seeing one of the patients to whom Dr. Atthill administered it for some weeks before her confinement, and he could bear out his statement that very little blood was lost. When he was assistant to Dr. Atthill in the Rotunda, the first cases in which ergot was tried were those of abortion; and there was also a case of a woman who had a large sub-mucous fibroma, ergot was administered to her for a considerable time, but it had not much effect in reducing the tumour. The os uteri was then dilated and an incision was made in the capsule of the tumour. Ergot was again given and produced the most violent uterine contractions, and at the end of a week or ten days the tumour was expelled through the cervix uteri, and was removed. He thought therefore that the administration of ergot before uterine action set in had very little effect. The great danger in using it was when the membranes had ruptured, and the waters had escaped. The tonic effect of the ergot was then likely to stop the circulation of the foetus and cause its death.

Dr. ALFRED SMITH, said the rule he used to follow when he was in the Rotunda under Dr. Macan—and which he had since followed himself—was this:—If the patient gave a history of previous post-partum hæmorrhage, they always examined the urine for albumen, and if they found it they concluded that there was a tendency to post-partum hæmorrhage. His present practice in such cases was to treat the patient for albuminuria. The great danger was in the third stage of labour. On the proper management of that stage depended the chief security against post-partum hæmorrhage. He (Dr. Smith) had never had in private practice a case of post-partum hæmorrhage where the labour was otherwise normal. He had seen severe cases of

it in the Rotunda when he was a student ; but rarely when there was proper attendance in the third stage of labour. [The mixture of ergot and strychnin which Dr. Atthill used, he (Dr. Smith) frequently used in cases of threatened abortion or miscarriage. He formerly dreaded using ergot in any large quantity ; but he was glad to hear from so distinguished an authority as Dr. Atthill that that could be done with safety. Anyone who had seen ergotine injected in fibroid tumours must be aware that it caused pain.

DR. ERNEST TWEEDY said that at the present day gynæcology was tending to become a surgical science. They were apt to give up medicines altogether, and that, more than they should. They met many cases of post-partum hæmorrhage ; and he believed that what gave rise to it was endometritis. His own experience was that it was to that that post-partum hæmorrhage was nearly always due. He would ask Dr. Atthill did he think ergot a useful drug to administer in cases of endometritis.

DR. F. W. KIDD said he had had some experience of Dr. Atthill's administration of strychnin and ergot in cases of anticipated post-partum hæmorrhage. As to quinine, a certain amount of regard should be paid to experience of the use of that drug in other countries, and especially in India, where it was very much used in large quantities in cases of malarial fevers. His impression was that in the early stages of pregnancy they avoided quinine, but that in the latter stages it was not supposed to have any injurious effect on the pregnancy. Since his student days he had seen but one severe case of post-partum hæmorrhage. As to the administration of ergot in hospitals, it should be borne in mind that the ergot they got in hospitals was supplied by contract, and was often unreliable. Dr. Tweedy had said that all the cases of this hæmorrhage that he had seen were due to endometritis. How could he prove that ? He (Dr. Kidd) believed that some students acquired the habit of resorting too soon in the third stage of labour to Credé's method of expelling the placenta, and that that practice was a very prevalent cause of post-partum hæmorrhage. He admitted that in earlier years he had himself fallen into the practice which he now condemned.

DR. E. TWEEDY in explanation said he understood Dr. Atthill's paper to be entirely confined to cases of atonic hæmorrhage in which there had been no tearing of the cervix. And he believed that such hæmorrhage was always due to endometritis. Myoma and kidney diseases were causes of post-partum hæmorrhage, but only because they gave rise to endometritis, which was almost always the cause of a bleeding uterus.

DR. ATTHILL, in reply, did not say that either ergot or strychnin were absolutely efficacious to prevent post-partum hæmorrhage; but if administered at the proper time, where a tendency to such hæmorrhage was known to exist, they tended in a marked way to prevent its occurrence. One thing of which he was certain was that the mixture he recommended tended to prolong the period of gestation. That was proved by the case he had mentioned of the lady who had ten children, and who had a tendency to be always confined before her time. The case showed that ergot had some specific action on the uterus. He believed that it strengthened the uterine fibres, and caused them to contract, and thus prevent or arrest the hæmorrhage. In his early days it was medicine, and medicine only, for this hæmorrhage; that existed to a certain extent still; but at the present day the majority of them were sceptical about the action of medicine, and no one was more sceptical than himself. But although he was a sceptic he was not an unbeliever. Medicine properly administered was most useful; and if its results were sometimes unsatisfactory, it was because they did not watch its effects in particular cases sufficiently, but followed like sheep a prescribed line of treatment. In cases of neuralgia the action of quinine was beyond all doubt. In the same way ergot when properly administered was a most efficient drug; and what he asked the members to do was to make trial of it. But it would not excite uterine action unless there was a foreign body in the uterus. His observations about the preventive treatment of post-partum hæmorrhage were based entirely on private practice; for hospital practice did not afford opportunities of watching the patients. Quinine he had not tried. He was afraid he could not agree with what Dr. Tweedy had said as to endometritis being invariably the cause of this hæmorrhage. At least he did not go so far as to say that it was the invariable cause. But he was prepared to say that ergot was absolutely useless in cases of endometritis. Perhaps he was not as good an obstetrician formerly as he could claim to be now; but he had had patients dying of post-partum hæmorrhage in which endometritis could not possibly have arisen. He believed a great deal depended on the treatment of the third stage of labour. He had no preconceived ideas when he began this treatment; and his paper was founded on most careful observations made during 25 years. Everyone might draw erroneous conclusions; but he could say with confidence after fifty years' practice that he never put forward any treatment which, he was more convinced, was—not absolutely certain—but useful than that which he now advocated. It would give satisfaction in the

majority of cases, would reduce the size of the uterus, and prevent sub-involution, which was the *fons et origo* of many ills.

The Section then adjourned.

SECTION OF PATHOLOGY.

President—CONOLLY NORMAN, M.D.

Sectional Secretary—E. J. McWEENEY, M.D.

Friday, February 26, 1897.

J. B. STORY, M.B., F.R.C.S., in the Chair.

Bubonic Plague.

In the absence of Dr. Joseph Redmond, the Sectional Secretary (Dr. McWeeney) demonstrated microscopic preparations by Dr. Yersin of the plague bacillus, discovered by himself (Dr. Yersin) and (independently) by Kitasato. One of the slides was a gentian-violet stained smear preparation from the bubo of a Chinaman dead at Hong-Kong of the disease, and showed enormous numbers of short oval bacilli in pairs and single forms with an unstained spot in the centre like the bacillus of chicken cholera, lying amongst the lymphoid elements and pus-cells. The other was a preparation from the blood of a mouse which had succumbed to septicæmia, consequent on the inoculation with a pure cultivation of the bacillus. Here the organism took the shape of a diplococcus, or very short diplo-bacillus. The speaker then gave a *résumé* of our present knowledge of this organism, including its *habitat* in the soil, its tendency to attack rats, &c., through which its virulence became so heightened that it could attack the healthy human system, and the successful results claimed by Yersin for sero-therapeutics. He concluded by quoting a specimen of the directions said to have been issued by the College of Physicians of 'London for the cure of plague during the last great visitation in 1665: "Pull off the the feathers from the tails of living cocks, hens, pigeons, or chickens; and holding their bills, hold them hard to the botch or swelling, and so keep them at that part till they die, and by this means draw out the poison. It is good to apply a cupping glass, or embers in a dish, with a handful of sorrel upon the embers."

The communication was discussed by the chairman and Dr. Parsons, and Dr. McWeeney replied.

The Section then adjourned.

SANITARY AND METEOROLOGICAL NOTES.

Compiled by J. W. MOORE, B.A., M.D., Univ. Dubl.;
F.R.C.P.I.; F. R. Met. Soc.;

Diplomate in State Medicine and ex-Sch. Trin. Coll. Dubl.

VITAL STATISTICS

For four Weeks ending Saturday, April 24, 1897.

The deaths registered in each of the four weeks in the twenty-three principal Town Districts of Ireland, alphabetically arranged, corresponded to the following annual rates per 1,000 :—

Towns	Weeks ending				Towns	Weeks ending			
	April 3	April 10	April 17	April 24		April 3	April 10	April 17	April 24
Armagh -	28.0	35.1	35.1	56.1	Lisburn -	4.3	25.7	17.0	25.7
Ballymena	16.9	5.6	11.3	5.6	Londonderry	29.8	23.6	15.7	22.0
Belfast -	28.7	28.7	27.1	30.2	Lurgan -	9.1	31.9	22.8	22.8
Carrickfergus	5.8	17.5	11.7	17.5	Newry -	8.1	32.2	16.1	32.2
Clonmel -	14.6	14.6	9.8	9.8	Newtownards	68.0	22.7	17.0	5.7
Cork -	28.4	28.4	37.4	18.0	Portadown -	30.9	30.9	68.0	12.4
Drogheda -	15.2	15.2	7.6	0.0	Queenstown	17.2	23.0	17.2	34.4
Dublin -	37.6	35.3	26.7	33.1	Sligo -	25.4	35.5	20.3	25.4
Dundalk -	33.5	29.3	4.2	33.5	Tralee -	56.0	22.4	22.4	5.6
Galway -	52.9	30.2	18.9	18.9	Waterford -	33.8	13.9	13.9	33.8
Kilkenny -	14.2	33.0	0.0	14.2	Wexford -	13.5	18.1	9.0	27.1
Limerick -	33.7	22.5	32.3	26.7					

In the week ending Saturday, April 3, 1897, the mortality in thirty-three large English towns, including London (in which the rate was 17.6), was equal to an average annual death-rate of 18.3 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22.1 per 1,000. In Glasgow the rate was 24.1. In Edinburgh it was 22.9.

The average annual death-rate represented by the deaths registered during the week in the twenty-three principal town districts of Ireland was 31·8 per 1,000 of their aggregate population, which, for the purposes of this Return, is estimated at 984,790.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·6 per 1,000, the rates varying from 0·0 in fourteen of the districts to 6·9 for Dublin. Among the 155 deaths from all causes registered in Belfast are 5 from measles, 2 from scarlatina, 9 from whooping-cough, 1 from diphtheria, 10 from enteric fever, and 2 from diarrhoea. The 41 deaths in Cork comprise 4 from measles, 1 from whooping-cough, and 1 from diarrhoea.

In the Dublin Registration District the registered births amounted to 188—96 boys and 92 girls; and the registered deaths to 258—117 males and 141 females.

The deaths, which are 49 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 38·5 in every 1,000 of the population. Omitting the deaths (numbering 6) of persons admitted into public institutions from localities outside the district, the rate was 37·6 per 1,000. During the first thirteen weeks of the current year the death-rate averaged 40·0, and was 8·1 over the mean rate in the corresponding period of the ten years 1887–1896.

Deaths from zymotic diseases, which had fallen from 80 for the week ended March 20 to 71 for the following week, further declined to 58, but this number is 33 in excess of the average for the corresponding week of the last ten years. The 58 deaths comprise 27 from measles—being 10 under the number from that cause in the preceding week and 19 under the number in the week ended March 20—4 from scarlet fever (scarlatina), 2 from influenza and its complications, 9 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, 1 from enteric fever, 1 from diarrhoea and vomiting, 3 from diarrhoea, 1 from dysentery, and 1 from erysipelas.

The weekly number of cases of measles admitted to hospital, which had risen from 49 for the week ended March 20 to 71 for the following week, fell to 39. Forty-five measles patients were discharged, 3 died, and 151 remained under treatment on Saturday, being 9 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 19, being 5 under the admissions in the preceding week, but 9 over the number for the week ended March 20. Twenty-three patients

were discharged, 1 died, and 103 remained under treatment on Saturday, being 5 under the number in hospital on that day week. This number is exclusive of 21 convalescents at Beneavin, Glasnevin.

Only 4 cases of enteric fever were admitted to hospital, being 4 under the admissions in the preceding week, and 9 under the number for the week ended March 20. Eleven patients were discharged, and 85 remained under treatment on Saturday, being 7 under the number in hospital at the close of the preceding week.

Five cases of typhus were admitted to hospital, against 3 cases in the preceding week. Fifteen cases of the disease remained under treatment in hospital on Saturday.

Diseases of the respiratory system caused 58 deaths, being 11 in excess of the average number of deaths from these diseases in the corresponding week of the last ten years, and 22 over the number for the previous week. The 58 deaths comprise 34 for bronchitis and 19 from pneumonia or inflammation of the lungs.

In the week ending Saturday, April 10, the mortality in thirty-three large English towns, including London (in which the rate was 17·5), was equal to an average annual death-rate of 18·6 per 1,000 persons living. The average rate for eight principal towns of Scotland was 24·6 per 1,000. In Glasgow the rate was 25·2, and in Edinburgh it was 26·7.

The average annual death-rate in the twenty-three principal town districts of Ireland was 29·5 per 1,000 of their aggregate population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 4·3 per 1,000, the rates varying from 0·0 in fourteen of the districts to 17·9 in Newtownards—the 4 deaths from all causes registered in that district comprising 1 from each of the following—scarlatina, whooping-cough, and diarrhoea. Among the 155 deaths from all causes registered in Belfast are 7 from measles, 2 from scarlatina, 1 from typhus, 5 from whooping-cough, 1 from diphtheria, 1 from simple continued fever, and 10 from enteric fever. The 41 deaths in Cork comprise 4 from measles, 1 from whooping-cough, and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 215—94 boys and 121 girls; and the registered deaths to 241—119 males and 122 females.

The deaths, which are 43 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 35·9 in every 1,000 of the population. Omitting

the deaths (numbering 4) of persons admitted into public institutions from localities outside the district, the rate was 35·8 per 1,000. During the first fourteen weeks of the current year the death-rate averaged 39·8, and was 8·1 over the mean rate in the corresponding period of the ten years 1887-1896.

The number of deaths from zymotic diseases registered was 48, being 10 under the number in the preceding week and 28 under that in the week ended March 27, but 22 over the average for the 14th week of the last ten years. The 48 deaths comprise 25 from measles—being 2 under the number from that disease in the preceding week and 12 under the number in the week ended March 27—1 from German measles, 3 from scarlet fever (scarlatina), 1 from typhus, 3 from influenza and its complications, 9 from whooping-cough, 2 from diphtheria, and 1 from diarrhoea.

The number of cases of measles admitted to hospital was 38, being 1 under the admissions in the preceding week and 33 under the number in the week ended March 27. Forty-seven measles patients were discharged, 1 died, and 141 remained under treatment on Saturday, being 10 under the number in hospital at the close of the preceding week.

Twenty-two cases of scarlatina were admitted to hospital, being 3 over the admissions in the preceding week, but 2 under the number for the week ended March 27. Twenty patients were discharged, 1 died, and 104 remained under treatment on Saturday, being 1 over the number in hospital on the previous Saturday. This number is exclusive of 21 convalescents at Beneavin.

The hospital admissions included also 5 cases of enteric fever and 1 case of typhus. During the preceding week 4 cases of the former and 5 of the latter disease had been received. Thirty-four cases of enteric fever and 14 of typhus remained under treatment in hospital on Saturday.

Deaths from diseases of the respiratory system, which had risen from 36 in the week ended March 27 to 58 in the following week, were 55, or 7 in excess of the average for the corresponding week of the last ten years. The 55 deaths comprise 24 from bronchitis, 21 from pneumonia, and 3 from croup.

In the week-ending Saturday, April 17, the mortality in thirty-three large English towns, including London (in which the rate was 16·6), was equal to an average annual death-rate of 17·9 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·3 per 1,000. In Glasgow also the rate was 22·3, and in Edinburgh it was 26·0.

The average annual death-rate represented by the deaths registered in the twenty-three principal town districts of Ireland was 25·3 per 1,000 of the population.

The deaths from the principal zymotic diseases in the twenty-three districts were equal to an annual rate of 3·8 per 1,000, the rates varying from 0·0 in seventeen of the districts to 5·8 in Carrickfergus—1 of the 2 deaths from all causes registered in that district having been caused by whooping-cough. Among the 146 deaths from all causes registered in Belfast are 8 from measles, 1 from scarlatina, 6 from whooping-cough, 9 from enteric fever, and 1 from diarrhoea. The 54 deaths in Cork comprise 7 from measles and 1 from diphtheria.

In the Dublin Registration District the registered births amounted to 139—71 boys and 68 girls; and the registered deaths to 189—104 males and 85 females.

The deaths, which are 6 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 28·2 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 26·7 per 1,000. During the first fifteen weeks of the current year the death-rate averaged 39·1, and was 7·7 over the mean rate in the corresponding period of the ten years 1887–1896.

The number of deaths from zymotic diseases registered was 40, being 8 under the number for the preceding week and 18 under that for the week ended April 8, but 18 over the average for the fifteenth week of the last ten years. The 40 deaths comprise 15 from measles—being 10 under the number from that disease in the preceding week—2 from scarlet fever (scarlatina), 1 from typhus, 1 from influenza, 14 from whooping-cough (against 9 in the preceding week), 2 from diphtheria, 1 from enteric fever, 1 from diarrhoea and vomiting, and 1 from diarrhoea.

The weekly number of cases of measles admitted to hospital, which had fallen from 71 in the week ended March 27 to 39 in the following week and 38 in the week ended April 10, further declined to 33. Sixty measles patients were discharged, 7 died, and 107 remained under treatment on Saturday, being 34 under the number in hospital at the close of the preceding week.

The number of cases of scarlatina admitted to hospital was 17, being 5 under the admissions in the preceding week. Nine patients were discharged, and 112 remained under treatment on Saturday, being 8 over the number in hospital on that day week. There were, besides, 21 convalescents at Beneavin.

Seventeen cases of enteric fever were admitted to hospital against 5 in the preceding week. Six patients were discharged, and 45 remained under treatment on Saturday, being 11 over the number in hospital on the previous Saturday.

Diseases of the respiratory system caused 37 deaths, being equal to the average for the corresponding week of the last ten years, but 18 under the number for the previous week. The 37 deaths consist of 25 from bronchitis and 12 from pneumonia.

In the week ending Saturday, April 24, the mortality in thirty-three large English towns, including London (in which the rate was 17·5), was equal to an average annual death-rate of 18·8 per 1,000 persons living. The average rate for eight principal towns of Scotland was 22·6 per 1,000. In Glasgow the rate was 22·0, and in Edinburgh it was 29·2.

The average annual death-rate in the twenty-three principal town districts of Ireland was 28·1 per 1,000 of the population.

The deaths from the principal zymotic diseases registered in the twenty-three districts were equal to an annual rate of 3·7 per 1,000, the rates varying from 0·0 in fifteen of the districts to 6·0 in Dublin. Among the 163 deaths from all causes registered in Belfast are 3 from measles, 1 from scarlatina, 6 from whooping-cough, 1 from simple continued fever, 5 from enteric fever, and 4 from diarrhoea. The 26 deaths in Cork comprise 1 from measles and 3 from whooping-cough.

In the Dublin Registration District the registered births amounted to 188—104 boys and 84 girls; and the registered deaths to 232—127 males and 105 females.

The deaths, which are 52 over the average number for the corresponding week of the last ten years, represent an annual rate of mortality of 34·6 in every 1,000 of the population. Omitting the deaths (numbering 10) of persons admitted into public institutions from localities outside the district, the rate was 33·1 per 1,000. During the first sixteen weeks of the current year the death-rate averaged 38·8, and was 7·7 over the mean rate in the corresponding period of the ten years 1887–1896.

Zymotic diseases caused 45 deaths, being 26 in excess of the average number of deaths from these causes in the corresponding week of the last ten years, and 5 over the number registered in the previous week, but 8 under the number in the week ended April 10. The 45 deaths comprise 19 from measles—being 4 over the number from that disease in the preceding week, but 6 under the number in the week ended April 10—1 from scarlet fever

(scarlatina), 1 from influenza, 14 from whooping-cough (being equal to the number in the preceding week), 1 from diphtheria, 2 from enteric fever, 3 from diarrhoea, 1 from dysentery, and 1 from erysipelas. Thirty-six of the 45 deaths from zymotic diseases were deaths of children under 5 years of age. Nine of the 19 deaths from measles occurred in the city, and 10 in the suburban districts.

There was a further decline in the number of cases of measles admitted to hospital, the admissions being 28 only, against 33 in the preceding week, 38 in that ended April 10, 89 in that ended April 3, and 71 in that ended March 27. Twenty-four measles patients were discharged, 2 died, and 109 remained under treatment on Saturday, being 2 over the number in hospital at the close of the preceding week.

The admissions of scarlatina cases also show a decline, the number being 14, or 3 under the number for the preceding week, and 8 under that for the week ended April 10. Nine patients were discharged, and 117 remained under treatment on Saturday, being 3 over the number in hospital on that day week. This number is exclusive of 16 convalescents under treatment at Beneavin.

The number of cases of enteric fever admitted to hospital was 12, being 5 under the admissions in the preceding week, but 7 over the number in the week ended April 10. Nine patients were discharged, and 48 remained under treatment on Saturday, against 45 the number in hospital on Saturday, April 17.

Deaths from diseases of the respiratory system, which had fallen from 55 in the week ended April 10 to 37 in the following week, rose to 57, or 20 over the average number for the corresponding week of the last ten years. The 57 deaths comprise 32 from bronchitis, 19 from pneumonia, and 2 from croup.

METEOROLOGY.

Abstract of Observations made in the City of Dublin, Lat. 53° 20 N., Long. 6° 15' W. for the Month of April, 1897.

Mean Height of Barometer, -	-	29·818 inches.
Maximal Height of Barometer (on 10th, at 9 a.m.),	30·289	„
Minimal Height of Barometer (on 1st, at 9 a.m.),	29·281	„
Mean Dry-bulb Temperature, -	-	45·0°.
Mean Wet-bulb Temperature, -	-	42·2°.
Mean Dew-point Temperature, -	-	39·0°.
Mean Elastic Force (Tension) of Aqueous Vapour,	·239 inch.	
Mean Humidity, -	-	80·6 per cent.
Highest Temperature in Shade (on 28th),	-	59·7°.
Lowest Temperature in Shade (on 2nd),	-	29·9°.
Lowest Temperature on Grass (Radiation) (on 2nd),	-	28·0°.
Mean Amount of Cloud, -	-	61·7 per cent.
Rainfall (on 22 days), -	-	2·485 inches.
Greatest Daily Rainfall (on 20th),	-	·421 inch.
General Directions of Wind, -	-	E., W.S.W.

Remarks.

A cold, changeable, rainy month. In Dublin rain fell on as many as 22 days, including snow or sleet on 2 and hail on 5. The barometer was very unsteady, and the distribution of atmospheric pressure was for the most part cyclonic. A finer and drier period, associated with a tolerably high barometer and easterly winds, set in on the 21st and lasted for a few days, but winter lingered to the close in Ireland, though in England some genial warmth was enjoyed in the daytime after the 25th. The amount of cloud was, in Dublin, 12 per cent. in excess of what it had been in April, 1896.

In Dublin the arithmetical mean temperature (45·9°) was 1·8° below the average (47·7°); the mean dry bulb readings at 9 a.m. and 9 p.m. were 45·0°. In the thirty-two years ending with 1896, April was coldest in 1879 (the cold year) (M. T.=44·5°), and warmest in 1893 (M. T.=51·4°). The month of April, 1893, was the warmest for at least 30 years, yet it was only half a degree warmer than April, 1896, which was 5° warmer than the month now under discussion.

The mean height of the barometer was 29·818 inches, or 0·032 inch below the average value for April—namely, 29·850 inches. The mercury rose to 30·289 inches at 9 a.m. of the 10th and fell

to 29·281 inches at 9 a.m. of the 1st. The observed range of atmospheric pressure was, therefore, 1·008 inches.

The mean temperature deduced from daily readings of the dry bulb thermometer at 9 a.m. and 9 p.m. was 45·0°, or only 1·2° above the value for March, 1897. Using the formula, *Mean Temp.* = *Min.* + (*max.* - *min.* × ·476), the value is 45·6°, or 1·8° below the average mean temperature for April, calculated in the same way, in the twenty-five years, 1865-89, inclusive (47·4°). The arithmetical mean of the maximal and minimal readings was 45·9°, compared with a twenty-five years' (1865-1889, inclusive) average of 47·7°. On the 28th the thermometer in the screen rose to 59·7°—wind, N.W.; on the 2nd the temperature fell to 29·9°—wind, N.W. The minimum on the grass was 28·0° also on the 2nd.

The rainfall was 2·485 inches, distributed over 22 days. The average rainfall for April in the twenty-five years, 1865-89, inclusive, was 2·055 inches, and the average number of rainy days was 15·2. The rainfall and the rainy days, therefore, were considerably above the average. In 1877 the rainfall in April was very large—4·707 inches on 21 days; in 1882, also, 3·526 inches fell on 20 days, and in 1894, 3·123 inches on 20 days. On the other hand, in 1873, only ·498 inch was measured on 8 days; in 1870, only ·838 inch fell, also on 8 days; and in 1896, only ·883 inch on 16 days.

Fog was observed on the 21st. High winds were noted on 16 days, reaching the force of a gale on the 3rd and 16th. Hail fell on the 1st, 14th, 15th, 19th, and 30th. The temperature rose to 50° in the screen on 22 days. It never rose to 60°, and once fell to 32° in the screen, and on 4 nights below 32° on the grass. The mean lowest temperature on the grass was 37·7°, compared with 40·6° in 1896, 37·8° in 1895, 40·0° in 1894, 38·2° in 1893, 32·4° in 1892, 34·1° in 1891 and 1890, 34·4° in 1889, 34·6° in 1888, and 31·6° in 1887. Solar halos were seen on the 8th and 16th, lunar halos on the 10th and 15th. Snow or sleet fell on the 1st and 14th.

The month opened with very unsettled, winterly weather. On the morning of Thursday, the 1st, a deep depression (28·84 inches at Jersey) was found to have travelled quickly eastwards up the English Channel, its centre at 8 a.m. being midway between the Isle of Wight and Cherbourg. Heavy rain and warm S.W. winds prevailed in France, while cold N.E. winds and sleet were experienced in England, the weather being still colder and drier in Scotland and Ireland. In the afternoon snow and hail fell heavily in Dublin. Another sharp frost followed at night. Friday was

fair and cold. A new disturbance in the S.W. brought gloom, cold rain, and a piercing S.E. wind to the Irish stations on Saturday. The rainfall of these first three days amounted to .199 inch, .180 inch being registered on the 3rd, none on the 2nd, and .069 inch on the 1st.

Another period of cold, unsettled, rainy weather has to be recorded in the week ended Saturday, the 10th. A number of complex but not very deep atmospheric depressions drifted slowly across Western Europe in an easterly or south-easterly direction. The centres of these systems usually passed across Wales, the S.W. of England and Brittany, and in those districts the rainfall was exceptionally heavy. Sunday was cold and wet at first, then dull and dreary on the east coast of Ireland, though fair at Holyhead. Rain fell heavily on Monday and Tuesday nights. Wednesday was a raw, cold day in Dublin, and thunder and lightning occurred in London with sleet and rain. Thursday morning was frosty; a solar halo appeared in the forenoon, and the afternoon was wet. On Friday also dull rainy weather prevailed, as a V-shaped depression passed eastward across Ireland. Between 5 and 6 p.m. the sky darkened and a sudden shift of wind from S.W. to N. took place with close rain. The sky cleared at night and temperature again became very low. Saturday proved a beautiful springlike day—a ridge of high barometer having advanced over Ireland in the rear of Friday's V-shaped depression. In Dublin the mean height of the barometer was 29.882 inches, pressure ranging between 29.564 inches at 9 a.m. of Wednesday (wind, W.N.W.) and 30.289 inches at 9 a.m. of Saturday (wind, N.N.W.). The corrected mean temperature was 43.4°. The mean dry bulb temperature at 9 a.m. and 9 p.m. was 42.5°. On Friday the screened thermometers rose to 54.1°; on Thursday they fell to 33.8°. The wind was variable—chiefly south-easterly. Rain fell on six days to the amount of .757 inch, .259 inch being registered on Tuesday.

Comparatively fine and springlike in parts of England—particularly the South and South-east—the weather during the week ended Saturday the 17th remained extremely broken and inclement in Ireland, the South-west of England, Wales and Scotland. A large anticyclone was found lying over Northern Europe up to and including Thursday, but in this period areas of low pressure were passing in rapid succession either northwards or north-eastwards along the western shores of Ireland and Scotland. Hence the prevalent strong southerly to westerly winds and frequent showers. Early on Wednesday morning the wind veered to W.N.W. in

Ireland, and a bitterly cold day followed, showers of hail, sleet and snow falling at frequent intervals. At night there was clear moonlight and temperature was very low— 37.9° at 9 p.m. Thunder and lightning occurred over Central England on this day. The two succeeding days were changeable, squally and showery. A brief spell of fair, dry weather was enjoyed in the east of Ireland on the afternoon of Good Friday, but thunderstorms occurred in England. A sheet of cirro-stratus, in which a solar halo was seen at first, overspread the sky on Friday evening. Saturday was wet and windy but mild at first, then showery, and finally clear and cold as well as dry. In Dublin the mean height of the barometer was 29.732 inches, pressure ranging between 29.323 inches at 9 p.m. of Tuesday (wind, S.S.W.), and 30.043 inches at 9 p.m. of Thursday (wind, W.S.W.). The corrected mean temperature was 46.5° . The mean dry bulb temperature was 45.8° . On Saturday the screened thermometers rose to 56.1° ; on Thursday they sank to 37.1° . Rain fell daily to the total amount of .826 inch, .209 inch being measured on Friday. The wind was first south-easterly, then westerly.

The most noteworthy feature in the weather of the week ended Saturday the 24th was the cessation of the rainfall after Wednesday, and the substitution of strong easterly (or polar) winds, dry and searching in character, for the westerly (or equatorial) winds which had so long prevailed. On Easter Day, April 18, a sharply-defined cyclone lay over Denmark, the station Fanö reporting a barometric reading of 29.20 inches at 8 a.m., whereas atmospheric pressure reached 30.16 inches at Valentia Island, Kerry. Fresh N.W. winds blew all over the British Islands, but the weather, although cool, was chiefly dry. On Monday a new disturbance advanced over Ireland, causing a wet afternoon. At 6 p.m. a heavy hail shower passed across Dublin and a brisk fall of temperature took place. Brilliant rainbows were seen in the evening. On Tuesday yet another depression approached Ireland, where rain fell heavily in the afternoon. This system apparently travelled away southwards as an area of high barometer developed over Scotland and the Norwegian Sea. With this re-adjustment of atmospheric pressure came a spell of strong, dry, cold easterly winds and much bright sunshine. As is usual in such a polar current, the atmosphere was very hazy—indeed, on Wednesday thick vapour fog prevailed for some time. On Friday a large depression was found over the Peninsula, moving north-eastwards to France and Central Europe. The effect was to increase the force of the easterly wind and to break up the fine weather in the extreme S. and S.E. In Dublin

the mean height of the barometer was 29·917 inches, pressure ranging from 29·571 inches at 9 p.m. of Tuesday (wind, S.E.) to 30·200 inches at 9 p.m. of Thursday (wind, E.). The corrected mean temperature was 46·5°. The mean dry bulb reading at 9 a.m. and 9 p.m. was 46·2°. On Sunday the screened thermometers rose to 55·0°; on Tuesday they sank to 38·7°. The rainfall was ·553 inch, ·421 inch being registered on Tuesday. The prevailing winds were at first S.W., then E.

Comparatively favourable and springlike weather occurred in the closing period (25th–30th). In Ireland there was very little warmth, but over the south and south-east of England the daily maxima were considerably above 60° on and after Monday. At the beginning an area of high barometer held over Northern Europe, while depressions were found over the Bay of Biscay and the Peninsula, as well as in the Mediterranean Basin. Hence easterly winds, low temperatures, and hazy but dry weather held in the British Islands and Central Europe. Tuesday morning broke dull and rainy in Dublin but the afternoon proved fair. In the evening a severe thunderstorm with heavy rain and hail passed across parts of London—large quantities of hail falling in and about Streatham and Tooting. On Wednesday also electrical disturbances took place in various parts of both France and England in connection with a number of shallow atmospheric depressions which slowly approached from S.W. On Thursday a more decided depression appeared in the N.W., causing rain at first and afterwards cold showers and hail on Friday. During the ensuing night the thermometers sank to 39·0° in the screen, and to 35·9° on the grass in Dublin. In Dublin the barometer rose to 30·066 inches at 9 p.m. of Wednesday (wind, W.), and sank to 29·701 inches at 9 a.m. of Friday (wind, W.N.W.). On Wednesday the screened thermometers both rose to 59·7° and fell to 42·7°. The rainfall was ·150 inch on four days, ·060 inch falling on Thursday. The prevalent winds were E. and W.N.W.

The rainfall in Dublin during the four months ending April 30th amounted to 9·554 inches on 79 days, compared with 5·781 inches on 63 days in 1896, 10·233 inches on 65 days in 1895, 9·151 inches on 73 days in 1894, 6·242 inches on 56 days in 1893, 5·922 inches on 61 days in 1892, only 3·203 inches on 46 days in 1891, 9·045 inches on 59 days in 1890, and a twenty-five years' average of 8·466 inches on 66·2 days.

At Knockdolian, Greystones, Co. Wicklow, the rainfall amounted to 4·135 inches on 19 days. The heaviest falls in 24 hours were 1·130 inches on the 12th and ·650 inch on the 6th. The total

rainfall in 1897, up to April 30th, was 13·080 inches on 80 days, compared with 5·686 inches on 50 days in 1896, 12·570 inches on 54 days in 1895, 12·456 inches on 70 days in 1894, and 8·530 inches on 54 days in 1898.

At Cloneev, Killiney, Co. Dublin, 2·77 inches of rain fell on 22 days. The maximal fall in 24 hours was ·52 inch on the 5th. The average rainfall in April of the twelve years, 1885–1896, was 1·648 inches on 13·2 days. Since January 1, 1897, 10·36 inches of rain fell at this station on 88 days, compared with 5·27 inches on 55 days in 1896, 11·28 inches on 66 days in 1895, 9·09 inches on 74 days in 1894, and 6·94 inches on 57 days in 1893.

At the National Hospital for Consumption, Newcastle, Co. Wicklow, the rainfall was 8·406 inches on 19 days. On the 5th, ·690 inch was measured; on the 12th, ·680 inch; and on the 20th, ·541 inch. The maximal temperature in the shade was 58·8° on the 17th. The minimal temperature in the screen was 30·1° on the 2nd. The thermometer in the screen fell to or below 32° on two days—the 2nd and 3rd. At this climatological station, 13·492 inches of rain had fallen on 76 days since January 1, 1897.

BENGAL JAILS.

We take the following figures from the *Indian Medico-Chirurgical Review* :—The total number of prisoners admitted into the jails of Bengal in the year 1895 was 89,597 against 91,714 in 1894, showing a decrease of 2,117. A table of jail mortality for a period of 50 years (1844 to 1894) shows the average death-rate of the prisoners to be 65·5 per mille. How the averages vary for definite periods is shown by the death-rate of two decades. In the decade 1876 to 1885 the average death-rate was 62·2, in the decade immediately following this period—viz., 1886 to 1895—the average attained was 37·3. It is stated that the year 1894 was the most unhealthy for jail populations, and the death-rate for this year was 47·1 per mille. The average death-rate of the last ten years (37·3) shows a marked and sustained improvement in the health of the jail population throughout Bengal, and is a certain index of the great improvement which has occurred in jail management throughout the province. The death-rate for 1895 is considerably below this low average, being only 27·3. Of the causes of mortality “dysentery and diarrhoea” and “intermittent fevers” were the chief diseases to which the prisoners succumbed.

PERISCOPE.

QUEEN VICTORIA'S NURSES.

THE Dean of Rochester (the Very Rev. S. Reynolds Hole, D.D.) has written an expressive and touching hymn in commemoration of Queen Victoria's Nurses to the Sick Poor in their own homes. The hymn has been effectively set to appropriate music by Mr. George C. Martin, and published by Novello, Ewer, & Co., of London and New York. At the trifling cost of three-halfpence both words and music may be obtained. One verse may be quoted to show the character of the composition :—

"In lonely cottage, and in crowded street,
Where pain and nakedness and hunger meet,
They bring sure comfort to the sore oppress'd,
Strength to the weak and to the weary rest."

A PRIZE COCOA.

At the Universal Food and Cookery Exhibition, held at Niagara Hall, London, under the patronage of H.R.H. the Duke of Connaught and H.R.H. the Princess Louise, and which closed on Wednesday, May 19, 1897, the Prix d'Honneur was awarded to Van Houten's Cocoa for purity, strength, flavour, and digestibility—in addition to true economy in use.

DEATHS FROM ANÆSTHESIA.

THE *Occidental Medical Times* publishes a paper on this subject, read before the San Francisco Medical Society by Dr. L. C. Lane, of San Francisco. He quotes from a work of Dr. O. Kappeler, of Thurgau, published in 1880. The statistics, it will be seen, are very discrepant. Dr. Andrews reports 1 death in 2,723 administrations of chloroform, in America. Dr. Coles, of Virginia, reported:—Ether, 4 deaths in 92,815 cases; chloroform, 53 in 152,260; both together, 2 in 11,176. Richardson, in England, reported 11 deaths by chloroform in 35,165 cases; Kerr, 1 death in 36,500 administrations in Edinburgh. In the American Civil War 7 deaths in 80,000 cases of chloroform anæsthesia were recorded. Nussbaum, of Munich, had no death in 15,000 cases. In the Zurich hospital but 1 death occurred in 5,000 cases. "In the 48th volume of the *Archiv. für klinische Chirurgie*, E. Gurlt, of Berlin, the famous statistician, has published the result of his studies, and which, as the most reliable work, probably,

done in this field, I herewith present in summarized form:—Of 166,812 administrations of chloroform, in the period from 1889 to 1894, there occurred 63 deaths; on an average 1 in 2,647 administrations. During the same period, among 26,320 patients anesthetized by ether, 2 died; that is, 1 in 13,160. From a mixture of ether and chloroform, there occurred but 1 death in 8,014 administrations. From a mixture of alcohol, chloroform and ether, known as 'Billroth's mixture,' there occurred 1 death in 4,190 administrations. From bromide of ethyl, there occurred 2 deaths in 7,541 administrations. Some years ago, Dr. Squibb stated that the deaths from anesthetics would probably be more accurately represented if the published cases were doubled, so as to represent the unpublished ones."

"OUR DOGS."

We have received the first number of *Our Dogs*, "a weekly journal devoted solely to dogs," price, one penny. To the ignorant outsider, like ourselves, the solemn earnestness with which we are informed that a gentleman addicted to dogs "has lost his Bulldog Vagabond, by Ruling Passion," has its comic side; but to doggy men and to unprofessional dog-lovers this periodical will be interesting and instructive. Dogs deserve to have a paper of their own.

POTASSIUM PERMANGANATE AND OPIUM.

We quote from the *Indian Medico-Chirurgical Review* a case of opium poisoning in which potassium permanganate was successfully exhibited. Mr. Hari Bhicaji, chief Medical Officer Gondal State, is the reporter:—At about the noon of 1st August, and during the temporary absence of the mother, a Hindoo child, aged about 18 months whilst playing about in the house, swallowed about 4 grains of opium, from an opium box, which was lying in the room. At 2 p.m. the mother on her return found the child lying unconscious on the floor, with the tin box containing opium beside it. The child was at once removed to the State Hospital and when admitted it was found to be fully under the influence of opium, with the head and extremities drooping and stertorous breathing. As there was no chance of using the stomach pump or of giving any emetics, the idea occurred to me that permanganate of potash might answer in this case, as recommended by Dr. William Moore, of New York. Accordingly I dissolved 8 grains of the salt in one ounce of water, and began to administer the solution in 2 drachm doses every 10 minutes, by the mouth, of course, with much difficulty. After an hour from the first

dose, the child appeared to be improving, still the solution was continued, but at longer intervals (every 20 minutes). The child showed decided improvement four hours after its admission into the hospital, and six hours after the swallowing of opium. At about midnight it was seen playing in the bed by the side of the mother. The total quantity of the salt used in the case was 16 grains.

TEA CIGARETTES.

THE *Lyon Médical* says that fashionable English ladies are no longer content to drink tea, but that they smoke it at their five o'clock teas. A lady who is very well known always has tea cigarettes passed around after dinner. Another spends nearly two pounds sterling a week in order to gratify her taste for tea cigarettes, and three celebrated actresses have given tea-smoking parties several times. In Kensington a number of literary ladies have organised a club for this same purpose. The habit has spread so elsewhere that tobacco merchants are offering packages of tea cigarettes to the public.—*N. V. Med. Journ.*

DIPHTHERIA ANTITOXIN.

In a paper by Prof. W. H. Welch, of the Johns Hopkins University, printed in the *Canadian Practitioner*, the following occurs:—"In Baginsky service the mortality for a year previous, under antitoxin treatment, had been 15·6 per cent. During the two months when the supply of antitoxin failed it rose to 48·4 per cent., returning to about the original figure on the supply being renewed. Rork noted a rise of fatality from 33·1 per cent. during the serum period to 53·8 per cent. during the period of failure of supply. Ganghofner, from 12·7 per cent. to 53·2 per cent.; Herm, from 22 per cent. to 65·6 per cent.; in Trieste, during an epidemic, from 18·7 per cent. to 50 per cent."

CHOLERA INOCULATIONS.

DR. W. J. SIMPSON, Health Officer of Calcutta, contributes to the *Indian Medical Gazette* his report to the Corporation on two years' experience of anti-choleraic inoculations. Dr. Simpson is an enthusiastic advocate of Haffkine's method. The following extracts contain his principal conclusions:—"Firstly, that during the first four days after the inoculation, cholera occurred among the inoculated and non-inoculated, though in a smaller degree among the inoculated, as will be shown later on; secondly, after the first four days, there was a period of over a year when there was almost an absolute freedom among the inoculated, while among the non-inoculated in the same houses, cases were occur-

ring during the whole year; and thirdly, after this period cases began gradually to reappear among the inoculated as well as among the non-inoculated." "That notwithstanding the incomplete protective effect of the first four days and the gradual disappearance of the resistance in those inoculated with weak doses of weak vaccines, which a large number of the inoculated people have received, the mortality amongst the inoculated, compared with that of the uninoculated, was in the proportion of 1 to 3·63, giving a reduction of mortality of 72·47 per cent., or, in other words, in houses where inoculations were performed, and which were subsequently visited by cholera, there occurred for every 11 deaths amongst the uninoculated three deaths amongst a similar number of inoculated. The results of Calcutta are fully confirmed by those obtained in other parts of India wherever it was possible to make all the necessary observations with precision, and wherever the cases were sufficiently numerous to show the effect of the inoculation."

LA SETTIMANA MEDICA.

THE weekly issue of *Lo Sperimentale*, the organ of the Florentine *Accademia Medico-Fisica*, having attained its fiftieth year, will in future appear as *La Settimana Medica dello Sperimentale*; under the direction of Prof. P. Grocco. In the number before us there is an interesting paper on cadaveric rigidity; discussing the question whether a corpse can retain the erect or other position, in which sudden death supervened. The answer is affirmative, illustrative instances are given, and the conditions favouring immediate rigor mortis are stated. Medico-legal cases occur in which the subject may be of importance.

PHRENOLOGY.

SOME papers which appeared in *Fraser's Magazine* many years ago demonstrated the unscientific nature of Gall's classification of the mental faculties from the metaphysical point of view. His localisation appears to be equally unsatisfactory. Dr. Charles L. Dana, of New York, in a paper contributed to the *Medical Record*, remarks:—Taking a standard phrenological bust as sold by the professors of the art, I have drawn over the various faculties, as indicated by Gall, lines by which I could map out the functions of the different parts of the brain, so far as they have been absolutely determined by modern investigations. These show some curious juxtapositions. Thus, the bumps of murder or destructiveness and secretiveness, which lie just above the ears, correspond with the centre for hearing; the bump of thieving,

which is a little in front of the ear, lies over the centre for the movements of the mouth; while self-esteem and reverence correspond with the more measured activities of the legs; I find also that parental love is identical on the bust with the sense of sight, and hope with the motions of the shoulders and arms. Perhaps some philosopher of the future will reconcile these differences and construct upon them an esoteric metaphysics; but at present it seems to me that physiology has quite extinguished the science of bumps. While the actual contributions of Dr. Gall to science were small, his work called attention to the importance of studying the conformation of the head and the function of the brain, and gave an impetus to more serious and fruitful studies.

TYPHOID DEATH-RATE OF AMERICAN CITIES.

From the principal cities of the United States, and Toronto, Canada, the following death-rates per 100,000 of population from typhoid fever alone are reported for 1894—New York, 17; Brooklyn, 15; Boston, 28; Philadelphia, 32; Baltimore, 48; Washington, D.C., 71; Pittsburg, 56; Buffalo, 36; Cleveland, 27; Detroit 26; Chicago, 31; Milwaukee, 26; St. Louis, 31; New Orleans, 28; San Francisco, 35; Cincinnati, 50; Louisville, 72; Providence, 47; Jersey City, 76; Lowell, 55; Newark, 15; Dayton, Ohio, 20; Toronto, 17.—*Canadian Practitioner*.

CREMATION IN PARIS.

THE crematory in Père Lachaise was established in 1889. It is used, we believe, for the cremation of still-born children and of the *débris* of the dissecting-rooms; but—we learn from the *Journal of the American Medical Association*—only 810 ordinary bodies have been incinerated in the five years. The number is slowly increasing from year to year, as the following figures show:—1889, 49; 1890, 121; 1891, 134; 1892, 159; 1893, 199; 1894, including July, 148.

NEW PREPARATIONS AND SCIENTIFIC INVENTIONS.

Saxin.

"SAXIN" is the name given to a powerful sweetening agent recently introduced and issued in "tabloid" form by Messrs. Burroughs, Wellcome & Co. It possesses a sweetening power about six hundred times greater than that of sugar, and is most delicate in flavour. This makes it acceptable to many patients who have hitherto refused

all sweetening agents other than sugar. A $\frac{1}{4}$ gr. "saxin" "tableid" may be substituted for each lump of sugar in the case of patients suffering from diabetes, gout, obesity, glycosuria, &c. By this means the harmful effects of sugar will be avoided, since "saxin" has no harmful action on the system. "Saxin" in "tableid" form ($\frac{1}{4}$ gr. in each) is issued in bottles of 100 and 200.

Palatinoids of "Easton's Syrup."

MESSRS. OPPENHEIMER, SON & Co., of London, have succeeded in manufacturing a "palatinoid" which contains an amount of phosphates of iron, quinine and strychnin equivalent to half a drachm of Easton's syrup, so well known as a powerful nerve tonic. The dose is one or two palatinoids, as the physician directs. This form of administration is very convenient for travellers or persons who are leading an active life from home. The palatinoids are easily swallowed. In these palatinoids the dose of the phosphates is stable, and therefore accurate. Being hermetically closed in a jujube cachet, they do not undergo decomposition, and patients can take a rather disagreeable (because intensely bitter) medicine tastelessly.

Antikamnia and Salol Tablets.

"ANTI-KAMNIA" is an American preparation which is steadily winning its way into favour as an antipyretic, anodyne, and analgesic of considerable power and safety. It is described as "a combination of coal-tar derivatives of the series C_nH_{2n-6} , into which the amines have entered, forming the various amido-compounds." Unlike other coal-tar products, it is said to have a stimulating action on the nervous centres and on the heart. It occurs as a micro-crystalline perfectly white powder, of a slightly pungent and bitter taste, and an alkaline reaction. It is moderately soluble in water, more freely soluble in sparingly glycerised water, and freely soluble in brandy, whisky or wine. Antikamnia is incompatible with acids. It may be readily given as a powder, in a cachet, or as a tablet. The dose for adults is 5 to 15 grains, for children in proportion. The preparation has proved of use in fever as an antipyretic, in rheumatism and neuralgia as an anodyne and analgesic. The Antikamnia Chemical Company, Saint Louis, U.S.A., have designed a compressed tablet of antikamnia and salol, $2\frac{1}{2}$ grains of each, which is likely to prove of great use in typhoid fever and acute rheumatism. These tablets may be had at the British depot of the Company, 46 Holborn Viaduct, London, E.C. The somewhat fanciful name "antikamnia" means "opposed to pain" (*ἀντί* and *κᾶμνω*, *I am weary*).

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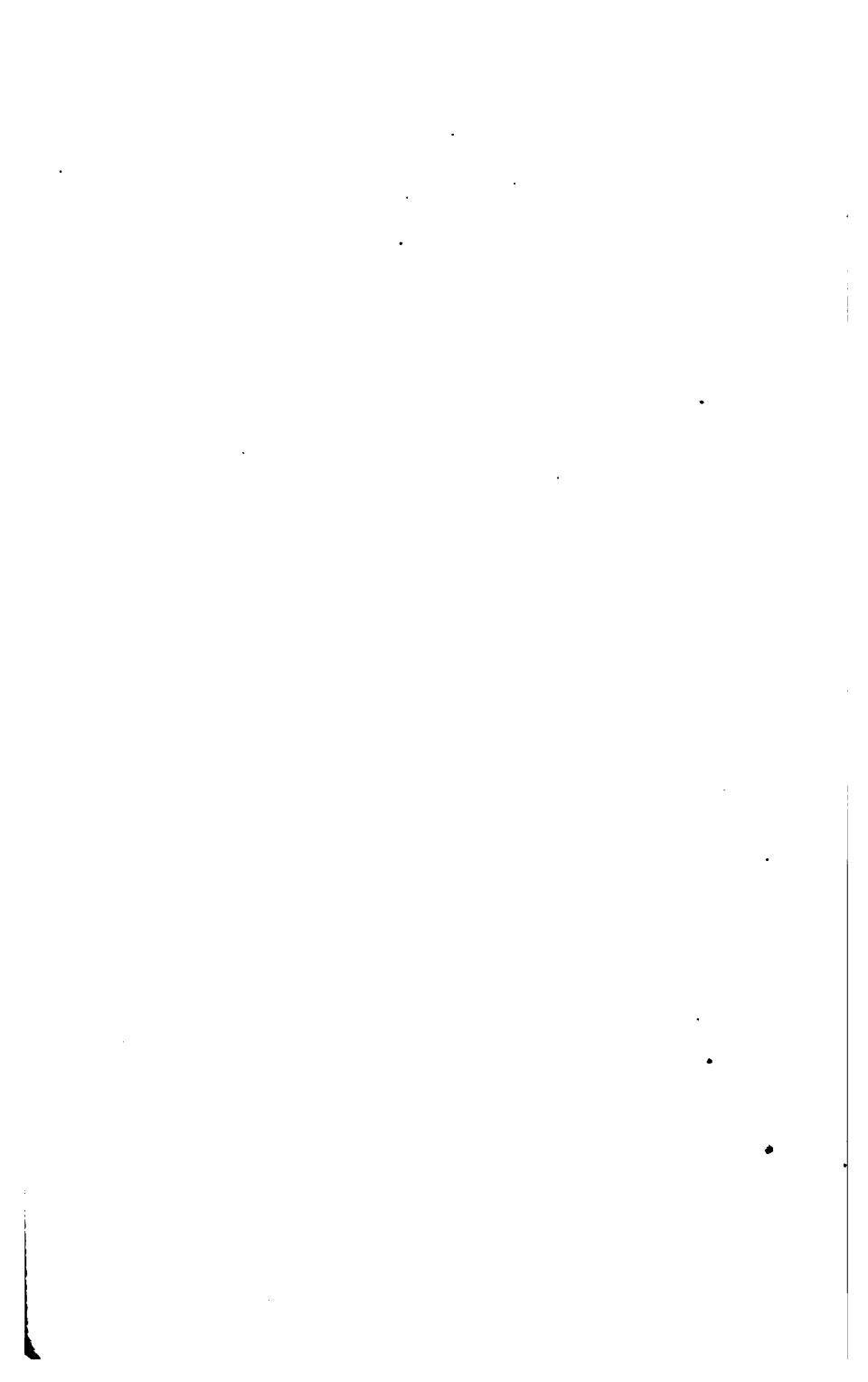
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